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The Petroleum Review.

Founded by PAUL DVORKOVITZ.

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No. 572.

THE PETROLEUM REVIEW.

The ANNUAL SUBSCRIPTION for both English and Foreign readers is 26s., including Postage. Single Copies may be had at the offices at 6d.

The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

Krimskaya— A Coming Russian Oil- field.

THE developments which are now taking place in the Krimskaya region of the Kuban Province of South Russia, and the success which has already attended these, leave no doubt upon the observant mind that the field is destined to play a most important part in the Russian petroleum industry. Not only has petroleum been proved to exist over a large area, but it is also proved beyond all doubt that it exists there in great quantities. All that is therefore now required is a little patience, until the present carefully-conducted developments meet their full reward. For the cultivation of an export trade, the geographical position of the field is distinctly full of advantage, while situated, as it is, between Novorossisk and Ekaterinodar, the inner markets of Russia are open to the Krimskaya petroleum products. We have followed developments closely in this region for some time, and it is on the account of the high opinions we have formed of this new Russian oil district that we devote so much space in this issue to an illustrated description of the same. We have no doubt it will be perused with great interest by all in any way interested in the extension of petroleum exploitation.

Developments in Mexico.

EVERY mail brings fresh evidence of the energy which is underlying the present activity throughout the petroleum fields of Mexico. On the fields themselves there has never been such activity as that existing everywhere to-day, and no doubt one incentive to this is the fact that the transport facilities from the fields to seaboard are now taking practical shape. At the moment there are nearly one hundred good producing wells in the Republic, the best of which is capable of yielding no less than 100,000 barrels daily. Although much has been written of the future of Mexico as a petroleum-producing country, it is doubtful if even now its vast potentialities are grasped, for already the country has shown itself capable of supplying

practically any requirements—so large is the capacity of many of the present producing wells. For the time being, the greater part of the export of petroleum is to the consuming markets of South America, yet large quantities find their way across the Gulf of Mexico, there to be refined. H.M. Consul at Tampico is about to publish a few details of capital invested in the Mexican petroleum industry, from which it appears that no less than £35,000,000 sterling has already gone in securing leases on oil territory, erecting storage, etc. Of this vast amount nearly £20,000,000 is American capital and the rest British.

The Progress in the Roumanian Petroleum Industry.

THE official figures showing the total production of crude oil in Roumania during the first five months of the present year are sufficient to indicate the healthy state of affairs which exists in Roumania. So far as the crude oil production is concerned, a new record of output has been established, and the total for the five months of 1913 is over 15 per cent. greater than for the corresponding period of last year. Some districts, we know, have a production which is declining, but others there fortunately are whose output not only makes good this decrease, but brings the total production so materially above all other records. In this respect, we would mention the Prahova region, where, especially in Moreni, the crude oil output is showing enormous strides. The refining industry and the export trade are also extending, but in even greater ratio than the production, for while the refineries are now refining by 30 per cent. more than they have hitherto done, the increase in the exports for the present year is over 40 per cent. The Roumanian Government is now commencing to see the national benefit which is following its well-disposed measures for the encouragement of the development of the nation's mineral wealth. Roumania stands out prominently as the one European country whose government has fostered by every means in its power an industry which all along has shown vast possibilities.

The Suggested "Monopoly" in Trinidad.

IT is to be hoped that the last has been heard of the attempt to strangle the negotiations which have recently been carried through in regard to developments in the transportation facilities of Trinidad for petroleum or its products. From the first—knowing the quarter from which much of the criticism sprang—we had little doubt that it would end in smoke, and though the matter has now been ventilated in the House of Commons, it is consoling to know that things will still stand as they are. Mr. Harcourt has made it clear that the opinions we have already expressed were quite correct, *i.e.*, the concessions already given are not of a monopolistic character, but are intended to give an impetus to development in the Island. For our own part, we have all along failed to see the slightest justification for the adverse criticism, which was created mainly as a means for cheap notoriety.

TRIAL TRIP OF S.S. "SAN SILVESTRE."

THE s.s. "San Silvestre" has been built on the Isherwood system of longitudinal framing by Swan, Hunter & Wigham Richardson, Ltd., at their Wallsend shipyard, and satisfactorily underwent her trials on Thursday. She is one of several large steamships designed for carrying petroleum oil in bulk, which they have in hand for the Eagle Oil Transport Company, Ltd., of London. The vessel has been built under the supervision of Messrs. Jacobs & Barringer, the owners' consulting naval architects and engineers. The leading dimensions of the ship are 432 ft. long over all, 54½ ft. broad, and her carrying capacity is about 9,300 tons. There are ten oil-tight holds sub-divided by a longitudinal bulkhead making twenty compartments. They are fitted with steam-heating coils to thin heavy oils, and are isolated fore and aft by a cofferdam. Aft of the fore peak is a hold for general cargo. There are two pump-rooms, with powerful pumps for discharging oil. A large electric fan has been installed to free the holds from gas. In the bridge-house amidships, comfortable accommodation has been provided for the captain and officers. The engineers have similar quarters in the after end of the ship. Wireless telegraphic apparatus will be installed. The quadruple expansion direct acting engines and boilers have been built by the Wallsend Slipway and Engineering Company, Ltd., and have sufficient power to drive the ship, fully loaded, at eleven knots an hour. The boilers are fitted with Howden's forced draught and also the Wallsend-Howden installation for burning liquid fuel under pressure. During the trial trip at sea everything worked without a hitch, to the satisfaction of all concerned. The owners were represented by Mr. Purdy, Capt. Tucker, Mr. Frank Rendall, their general manager, Mr. Barringer, their consulting naval architect and engineer, and his assistant, Mr. Walter Bradney.

BAKU PETROLEUM PRODUCTION DURING MAY.

THE total production of crude oil on the Baku oilfields during May amounted to 35,170,173 poods, of which 8,118,459 poods were obtained on the Bibi-Eybat area and 27,051,714 poods on the old areas. The production of the principal firms during the month was as under:—

	Poods.
Nobel Bros.	5,022,690
Caspian and Black Sea Company	2,228,440
Mantascheff & Co.	1,929,800
Baku Petroleum Company	1,794,109
Moscow-Caucasian Petroleum Company	1,290,000
Zoubaloff	1,263,000
Caspian Society	1,199,730
Mirzoeff Bros.	1,164,700
Pitoeff & Co.	1,108,300
Runo	1,053,600
Russian Naphtha Society	1,003,250
Kavkaz Company	767,500
Nagieff	621,624
Asadulaeff	618,160
Aramazd Company	594,500
Boin	550,975

Hand-dug well production amounted to 1,320,000 poods.

The production at Surakhany during May amounted to 2,524,795 poods of black oil, 179,922 poods of gas, and 29,295 poods of white oil. Out of the total production 569,610 poods were obtained by spouting. The production of the various firms was as under:—

	Poods.
Asadulaeff	74,000
Baku Petroleum Company	139,870
Benkendorf	666,775
Caspian and Black Sea Company	555,875
Mirzoeff Bros.	61,000
Nobel Bros.	827,570
Rilski Trustees	110,000
Galer and Zukke	89,705

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended June 28th was 78,000 poods.

SPIES PETROLEUM COMPANY, LTD.—Production, week ended June 29th, including 32,370 poods from ambars, was 291,560 poods, or about 4,703 tons. The total production for the year, from Jan. 14th to June 29th, was 6,971,585 poods, or about 112,445 tons. The total production for the corresponding period last year was 8,065,260 poods, or about 130,085 tons. Price of crude oil at Baku, 40¼ copecks per pood.

THE MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended June 28th was 13,975 poods (225 tons).

THE EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended June 29th was 97,800 poods, or 1,577 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended June 28th was 135,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended June 28th was 34,636 poods (559 tons).

THE MAIKOP SPIES COMPANY, LTD.—The production of this company for the week ended June 29th was 9,610 poods, or about 155 tons.

MAIKOP NEW PRODUCERS, LTD.—Production for week ended June 28th was 8,950 poods, or 144 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended June 29th was 18,352 poods, or 296 tons.

THE NORTH CAUCASIAN OIL FIELDS, LTD.—Production for the week ended July 1st was 122,000 poods, or 1,967 tons. Corresponding period last year, 528 tons. Total production to date for this year, 43,922 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended June 29th was 88,467 poods, or 1,427 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended June 28th was 4,800 poods.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended June 28th was 4,547 poods.

Messrs. Flannery, Baggallay & Johnson, Ltd., Consulting Engineers, of London, Liverpool and Rotterdam, announce that Mr. Harold Fortescue Flannery, B.A., son of their senior, has joined their private company as one of the directors and managers.

GERHARD & HEY,
OILFIELDS SHIPPING AGENTS,
Great St. Thomas Apostle
 (Off Cannon Street),
LONDON, E.C.

ESTABLISHED 1856.
 Telephone: Wall 5120 (4 lines).

THE BAKU OIL SITUATION. ABSURDITY OF THE RECENT AUCTIONS.

By Mr. HERBERT ALLEN.

READERS of the REVIEW and oil shareholders generally will be interested to know the outcome of the "auctions"—as they are somewhat curiously termed—of Government oil lands at Baku, which took place on May 30th (17th old style).

The number of plots for which the Government invited bids was thirty-four, viz., fourteen at Bibi-Eybat, twelve on Romany Lake, four at Romany, four at Sabunchi. The total area of these thirty-four plots is about 150 dessiatines, or an average of about $4\frac{1}{3}$ dessiatines per plot. The duration of lease is fixed at thirty years in every case and is divided into what may be called the "boring period" and the "producing period." On the Romany Lake and Romany plots, with one exception, the boring period is three years; on all the others, with the exception of one Bibi-Eybat plot, the boring period is two and a-half years. The leases will date from the time of the confirmation of the auctions by the Government.

The quantity of obligatory boring to be done on the entire thirty-four plots during the boring period is 21,920 sages (153,440 ft.). The amount of the cash deposit to be paid at the time of tendering varied according to the area of the plot, but the total in respect of the thirty-four plots amounted to 962,000 roubles. On confirmation a further sum of 962,000 roubles is payable, making altogether 1,924,000 roubles. The amount of obligatory boring varies in almost every case. There is no stipulation as to the quantity of oil to be produced during the boring period.

The obligatory minimum production on the whole thirty-four plots in the first year after the boring period is 21,645,000 poods (349,000 tons); in each of the second, third and fourth years 43,290,000 poods; in the fifth and following years nine-tenths of the obligatory minimum production of the preceding year.

Unlike auctions held on previous occasions plots will not (in theory) be allotted to those offering the highest royalties. Of any oil produced during the boring period, whatsoever the quantity, the Government takes 20 per cent. in cash or kind as rental of the plot. Throughout the producing period the lessee has to pay the Government the difference between (1) the value of the obligatory minimum production of naphtha at the price which it realises, and (2) a hypothetical working "cost" declared by him on tendering, which constitutes a "provisional price." The person undertaking to produce the stipulated minimum quantity at the lowest working cost (such cost not exceeding 15 kopecs per pood) is presumably the successful competitor for the plot.

The obligatory production has to be settled for in the above manner even if the actual production is less than the stipulated minimum. On the quantity of naphtha produced over and above the obligatory minimum, the lessee pays the Government a fixed royalty of 20 per cent.

In practice the result is the same under the methods now pursued as it was at former auctions, as the lower the provisional price now put in the more the producer will ultimately pay the Government.

For example, a person tendering for a plot on a hypothetical working cost or provisional price of 5 kopecs per pood would, with a realised price of 25 kopecs, pay the Government 20 kopecs per pood, which is equal to 80 per cent. royalty. From the 5 kopecs retained the lessee would have to pay the entire exploitation expenses, which may equal anything from 10 to 20 kopecs per pood.

Under such conditions the natural desire of a competitor for plots would be to put in the highest working cost or provisional price permissible (15 kopecs per pood), but to do that would almost certainly have resulted in his offer being rejected, as Baku went crazy over these auctions and it was known that in the mad rush for plots many competitors were contemplating tendering a working cost of at most $2\frac{1}{2}$ kopecs. It now transpires that many tenders have been put in on the basis of no working cost whatever, thus making the Government a present of the entire gross value of the minimum obligatory production!

And even that is not the limit of folly, many competitors having gone so far as to tender "minus quantity" working costs ranging down to 47 kopecs per pood.

A minus quantity of 47 kopecs per pood for working would mean that the Government, with oil selling at 35 kopecs per pood, would receive a royalty of 82 kopecs per pood on the entire obligatory production, the producer, of course, paying all the expenses of exploitation as well.

What, it will be asked, is the explanation of this seeming outburst of madness on the part of oil men at Baku? It is that a certain number of enthusiasts think they have discovered a means of outwitting the Government.

I have already stated that during the "boring period" there is no obligatory minimum production, the royalty being fixed at 20 per cent. of the actual production, whatever it may be. It appears to have dawned simultaneously upon a small army of competitors that by a programme of "intensive" boring they can get down enough wells within twelve months from the granting of the rights, to give a production which will entirely recoup them their capital outlay (roughly estimated at about Rs.637,500 per plot) before the boring period expires, *i.e.*, before the commencement of the first year of obligatory production.

These extravagant estimates are based on the assumption that an average of about ten wells per plot (340 wells altogether) can be drilled to an average depth of about 200 sages (1,400 ft.) within twelve months. As a matter of fact, there would not be skilled labour sufficient to do anything like that quantity of drilling

were every man withdrawn from the normal work on the entire present oilfields.

The estimated capital outlay of Rs.637,500 per plot is, moreover, based largely on the present contract price of boring, though such would be the demand for boring contractors that the normal price for drilling would not improbably be doubled. Furthermore, the consequences of hasty drilling would be disastrous to the plots, which would probably be waterlogged from the very outset owing to neglected or imperfect cementing of the wells, and in any event a large percentage of the wells would be spoilt owing to hurried and inefficient work. In normal times it is considered a good result to get four successful wells out of every five bored; on this basis to get 340 good producers would mean at least 425 bored; put the other way, we should, in the ordinary course, expect less than 272 successful wells out of a total of 340 started.

Even under normal conditions complaint is becoming almost general of the deterioration in boring work on the Baku oilfields, partly owing to scarcity of skilled labour and partly to the early boring masters having retired from business or turned their businesses over to joint-stock companies.

What the state of affairs would be with this suddenly increased demand for labour can easily be foreseen by those acquainted with local conditions.

The probability of any such number as 340 new wells being drilled within twelve months, or anything like that time, can therefore be dismissed, in which case all the calculations of those who have tendered for plots in that expectation must be upset, and the result cannot be otherwise than disastrous to the lessees. It is only on the assumption of failure in this respect that any such price as 35 kopecs, or even 25 kopecs, per pood for crude oil can be expected.

To equip each plot and put down ten wells of 200 sages each, at present boring prices, would entail an average capital outlay of at least Rs.637,500, without any allowance for contingencies, or a total of Rs.21,637,500 for all the plots. To recoup this sum it would be necessary for the lessees to sell 216,750,000 poods of oil, with a selling price as high as 25 kopecs and working expenses of only 10 kopecs, the Government taking a 20 per cent. royalty. If this production were obtained over twelve months, the 340 wells would have to give an average of close upon 2,000 poods (gross) per day, or if over eighteen months, then 1,300 per day. As a matter of fact, the average daily production of new wells in 1912 was only 983 poods, and, taking all the wells at Baku together, the gross production last year averaged only 480 poods per day.

As the new plots are in every case surrounded by areas which have been under production for many years, they must have been largely denuded of their oil contents, and a high average yield per well cannot be expected.

Now let us look at this harum-scarum business from an entirely different standpoint, viz., that of its effect on the market price of crude oil. In less than ten years the annual oil production of Baku has fallen from 670,000,000 poods to 425,000,000 poods, and in the same period the price has risen from 6 kopecs to the present price of 40 kopecs per pood. The insane competition for new plots and the assumption that a fortune can be recovered from them in a year or eighteen months, is

based largely on the hypothesis of the oil being saleable at 35 kopecs per pood.

The competitors appear to have shut their eyes entirely to the immense drop in price which must inevitably take place if their estimates of production are realised. The prospect of 200,000,000 or 300,000,000 poods additional of crude oil being put on the market in 1915-16 would cause such demoralisation that no man can foresee the consequences; there could scarcely be a limit to the fall which it would, even if only temporarily, bring about.

The competitors for these new plots are therefore in for trouble either way—always assuming that the tenders are accepted by the Government and the auctions are confirmed. If oil is to hold in price it will only be by reason of the production falling short of anticipations; if the production is all that they anticipate, then down must come the price. They cannot have it both ways, *i.e.*, large production and high prices simultaneously, and without both the lessees must incur heavy loss.

It is understood that 426 tenders were put in for the thirty-four plots, and many of these were from irresponsible and inexperienced persons. On the other hand, amongst those tendering were several of the richest and most powerful firms in Baku: of the tenders put in, twenty-nine were accepted, subject, of course, to confirmation by the Government. Of these, nine were for Sabunchi plots, tendered for at a "working cost" ranging from 14.2 kopecs per pood down to "minus 46.7" kopecs per pood; six were Romany plots, tendered for at from 11.87 kopecs per pood down to "minus 47" kopecs; fourteen were Bibi-Eibat plots, ranging from 12.3 kopecs down to "minus 6.95" kopecs per pood.

Of these twenty-nine tenders seven were put in the name of Messrs. Nobel Bros., ten in the name of R. V. Kaiser (reported, but with what authority I do not know, to be acting on behalf of Messrs. Nobel), and twelve in the names of various firms and companies.

The only tenders put in on anything approaching a business basis were Messrs. Nobel's seven, which were based on a "working cost" ranging from 1.95 to 14.2 kopecs per pood. It appears that the tenders at a working cost of "0 kopecs" were more than sufficient to absorb all the plots offered. This means that on a production of 22,000,000 poods—which is approximately the stipulated minimum for the first producing year—with a selling price of 25 kopecs per pood, the royalty would equal 100 per cent.; in other words, the producers would present the entire output to the Government, whilst themselves bearing the expenses of exploitation. With a production of 33,000,000 poods, the royalty would equal over 73 per cent., and with 44,000,000 poods, 60 per cent. For the second, third and fourth years, under the same conditions as to price and so forth, with a production of 25,000,000 the royalty would equal 176 per cent.; with 44,000,000 poods, 100 per cent.; with 50,000,000 poods, over 90 per cent.; and with 75,000,000, nearly 67 per cent. In every instance the expenses of working the plots are a burden borne by the producer, and taking this at only 10 kopecs per pood the producers would lose, on the above hypothesis, in the first year Rs.2,200,000, and in each of the three following years

Rs.4,400,000, assuming in each case that they succeeded in producing the obligatory minima.

What object the competitors have in view in offering to work the plots on such terms is not easily divined. It is true many of the firms tendering are not only great oil producers, but refiners and distributors as well, and it is in the latter branches of the business that money is made in the long run—not in the production of crude oil under high royalties, unless the market price of the commodity is very high.

Apparently, therefore, they are bidding for plots, not with the object of exploiting them, but of keeping them idle for two or three years, thereby—at the price of the forfeited deposits—protecting the adjacent plots which they are at present working. Alternatively, it may be their intention to make the most of the new plots during the two and a-half to three years' "boring period" and abandon them immediately the obligatory conditions come into force—which the lease conditions allow them to do—trusting to their profit on refining and distribution to "get them out" of any loss they may incur during the boring period.

It may, of course, have been in the minds of some of the competitors that by offering terms that were never contemplated by the Government the auctions would be annulled and the aim of the authorities to bring about an increased production of oil defeated.

The effect of seventeen out of twenty-nine plots going to one firm or their nominees would of itself—if true—be sufficient to ensure the whole series being cancelled, just as the 1907 auctions were.

The first result of the auctions, in the improbable event of their being confirmed, and should a period of intensive drilling ensue, would be to demoralise the labour market and later on induce strikes, riots, and probably racial disturbances. What that might mean we saw in 1905. Neglect of the present workings must inevitably take place, and that means further incursions of water and a proportionate diminution in the oil output, which would leave the Baku field, as a whole, in two or three years' time with a smaller production and higher prices than ever.

And this is how the Russian Government expects to bring down the price of oil—the professed reason for

the present series of land sales. The anomalous situation now created is only one example of the ineptitude of the authorities in dealing with the situation, and not improbably the whole of the auctions will ultimately be cancelled, as in the case of the 1907 auctions, after two or three years' delay.

The latest rumour is that the Government will work some of the new lands itself—perhaps with military labour—thus placing itself in competition with its own lessees on adjoining plots. Such a course would be quite in keeping with its attitude towards the oil industry all along.

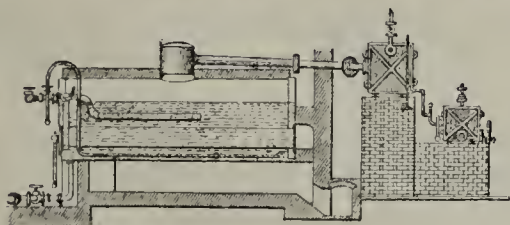
It will scarcely be credited that the Russian Government, which derives a revenue of £10,000,000 per annum from the oil industry, has never thought it worth while to make a geological survey of the Baku field, and that no geological map of the district exists, although one was promised ten years ago.

Nor is there any Government supervision or regulation of the working of the oilfields, the consequences being that a vast amount of incompetent boring has been done, the cementation of wells has been neglected, and the field is now more or less waterlogged. The methods of the Russian Government towards this great industry have all along been the methods of barbarism, and the way in which the auctions of 1907 and 1913 have been handled show no signs of dawning intelligence or of fair play, either to the oil industry or the oil-using public. The only effect can be the temporary demoralisation of the oil market, without any continuous addition to Russia's oil output as a whole.

A New Californian Pool.—What is believed to be quite a new pool has been discovered in Kern county. It is about eight miles north-west of the Belridge pool, and the same distance south-west of the Lost Hills district. The test well has been drilled by the Mannell-Minor Petroleum Company, and encountered the oil sands at about 3,000 ft.

Profitable Sunset-Midway Wells.—The Pacific Crude Oil Company, operating in the Sunset-Midway fields, has one of the best wells yet drilled. It is of the gusher type, and was brought in on May 1st last year. Up to date it has produced nearly 1,200,000 barrels of crude oil. The same company's No. 2 well, which was brought in last February, is now yielding 1,200 barrels per day, having already given over 100,000 barrels.

Fractionating Petroleum Distillation.



By means of this process the Benzine is at once produced in a rectified state, supplying an excellent Petroleum, which saves the Benzine Rectifying Apparatus, etc., besides simplifying and reducing the expense of the plant and working of the factory.

Testimonial.

The Directors of the Hungarian Mining and Smelting Works, and the Domains of the State Railway Company, at Budapest, when ordering the second plant, write as follows:—

"On this occasion we are happy to say that your Fractionating Condensator produces a complete separation of the heavy benzine from the petroleum, and of the latter from the solar oils, with a specific gravity of upwards of 0.860, thereby producing a petroleum free from benzine and solar oils. In the same way this condensator supplies the desired gasoline with 0.640–0.650 specific gravity directly from the crude oil."

MINERAL OIL REFRIGERATORS,

By means of which the lightest oils may be condensed and a higher yield obtained than with the other refrigerators.

Construction and plant of rationally working mineral oil factories.

Engineer FISCHER, Baden, near Vienna (Austria), Kanalschleuse No. 17.

MISCELLANEA.

MAIKOP PETROLEUM PRODUCTION.

THE production of petroleum on the Maikop oilfields amounted, during the first half of April, to 215,587 poods; during the second half of April, to 227,542 poods; and during the first half of May, to 220,846 poods. There were but 246 poods of spouted oil on plot 45 Andreas. The quantities pumped over from the fields during the above periods amounted to 216,229, 208,628 and 215,043 poods. Quantities in store on the fields were—on April 15th, 96,634 poods; on May 1st, 115,548 poods; and on May 15th, 121,351 poods. The number of producing wells for the above periods was 115, 121 and 127 and the depths were from 203 to 2,268 ft.

COMPARISONS OF BENZINE OBTAINED FROM PETROLEUM GAS.

MR. SCHNELLING has studied the hydrocarbons obtained by condensation of the petroleum gas from oil wells. By means of pressure and refrigeration he succeeded in obtaining from the gas two fractions, of which one was formed entirely of pentane and hexane, and the second one, less condensible, of butane, propane and a small quantity of ethane. This latter fraction forms the so-called petroleum gas. It can be liquefied only at a considerable pressure, namely, that of 500 lbs. per sq. in. The liquefied petroleum gas yields per each volume of liquid, 350 volumes of gas, having a calorific value of 22,000 units, or four times as large as that of coal gas. The temperature of the flame of this gas is $2,300^{\circ}$, as against $2,150^{\circ}$ of the flame of coal gas. With incandescent mantles the flame yields illuminating power of great magnitude.

A NEW SYNTHESIS OF A PETROLEUM HYDROCARBON.

THE number of petroleum hydrocarbons obtained in a synthetical way is considerably increasing. In most experiences the original material used for such syntheses were acids of the oxalic series. From these Prof. Zelinski a few years ago obtained a whole series of naphthenes similar in their properties to the petroleum naphthenes. Recently Mr. Schmidt and Mr. Zigwart, in Stuttgart, have successfully carried out a synthesis of a cyclic hydrocarbon from one of the components of coal tar, namely, carbazol C_6H_4NH . C_6H_4 . Acted upon (at a temperature of 230° – 240° C in a closed tube) by hydrogen iodide and phosphor, ammoniac is being split up, with the result of obtaining the cyclic hydrocarbon dicyclopentyle $C_{12}H_{22}$ of a spec. 92, 0.8784, and boiling-point 213° – 214° C, and showing a refraction coefficient of 1.4755. The high gravity and the boiling-point indicate the presence in the higher fractions of kerosene and solar oil, but it possibly may be found also in the middle fractions. The same hydrocarbon has been previously obtained by synthesis by Zelinski, and also isolated from Luisiana oil by Coates in 1906.

GROSNY PETROLEUM PRODUCTION DURING APRIL.

THE total production of crude oil on the Grosny oilfields during April amounted to 6,032,743 poods, as against 6,266,011 poods obtained during March. The quantity of spouted oil included in the above production amounted to 600 poods in April and to nil in March. The production of the various firms was as under:—

	Poods.
Akhverdoff Company	2,518,500
Spies Company	1,328,790
North Caucasian Company	548,000
Wishau	513,550
Russian Standard	379,340
Anglo-Russian Maximoff Company ..	286,087
Maximoff Trustees	207,100
Tcheleken-Dagestan Company ...	128,355
Skhirtladze	41,000
Moscow Company	36,619
Caspian Black Sea Company	25,310
Petersburg Company	15,000
Terski Company... ..	5,092

The number of plots in production was 58, and the number of producing wells 243. The quantity of petroleum in store on the fields amounted on the 1st of May to 2,266,026 poods, as against 2,038,962 poods in store on the 1st of April.

There have been recently great changes in Grosny. The North Caucasian Company passed into the hands of the group of the Russian Standard, while the enterprises, Anglo-Russian Maximoff Company, Maximoff Trustees, and the St. Petersburg Company were transferred to an English group. The Akhverdoff Company has acquired the pipes of the Second Tuapse Pipe-line and is constructing a line to the Caspian Sea. Large deals in land are taking place in the new Grosny area. Belik has sold lands to the value of 1,000,000 roubles; this example is now followed on by Tchermoeff. These lands were bought over by the Russian Standard, North Caucasian, and by many Baku people. In the Wosnesensk district Mr. Maikoff is very active, and the Kolkhida Company is erecting a large derrick and is making various exploration work.

ROUMANIAN PETROLEUM PRODUCTION DURING MAY.

THE production of petroleum in Roumania during May amounted to 160,000 tons, as against 157,000 obtained during April. The production of the principal firms was as under:—

	Tons.
Astra-Romana	37,502
Steaua-Romana	35,416
Romana-Americana	27,916
Colombia	21,987
Concordia	7,366
Orion	4,931
Roumanian Consolidated Oilfields ...	4,301
International	3,524
Alfa	2,635
Traian	2,335
Aquila Franco-Romana	1,709
Nafta	1,514

THE MANUFACTURE OF PETROLEUM PRODUCTS.

By Dr. F. C. ROBINSON, Chief Chemist of the Atlantic Refining Company.

THE first group of products from petroleum is made up of gasolines and naphthas. There is some confusion among the various names, benzine, gasoline, naphtha, etc.; but the best practice is to use the word gasoline for any mixture of light hydrocarbons intended for use in any kind of vaporiser—*i.e.*, to be gasified in gas-machine, gasoline torch, gasoline stove, or automobile carburettor. Also to confine the word naphtha to mixtures of hydrocarbons intended for some purpose that requires a very good odour, such as the naphtha used by cleaners, varnish-makers, soap-makers, etc. In this scheme, the word benzine finds no place. Gasolines and naphthas vary in average boiling-point according to the use for which they are intended; but all lay between 125° F. and 280° F. In all cases it is essential that they be free from all heavy hydrocarbons that do not evaporate from the hand.

The next group consists of several grades of lamp oil. Lamp oil is a mixture of hydrocarbons, whose average boiling-point is about 450° F., entirely freed, on the one hand, from gasoline or naphtha, and, on the other hand, from the heavy hydrocarbons that belong to gas oil and lubricating oil, and that would make the oil act badly in the lamp.

The next class is gas oil. While oils of all degrees of volatility have been used, the most economical for the gas-maker consists of a mixture of heavy hydrocarbons with an average boiling-point of 600° to 650° F. It must be practically free from gasoline and lamp oil, on the one hand, and from the heavy lubricating oils and asphalt, on the other.

The next group is fuel oil. This oil occupies a peculiar position. It must be oil, and must not contain gasoline, and must be of such a consistency that it can be pumped through pipes and burners; but, except for these restrictions, one oil is practically as good as another for fuel. The light oils have a slightly higher heat of combustion per pound; but the heavier oils have a slightly higher heat of combustion per gallon. For some purposes, such as oil-engines, special oils are required; but, in general, fuel oil is made up of oils that cannot be used for any better purpose.

The next group is that of spindle oils—neutral and paraffin oils. This important group includes hundreds of light lubricating oils designed for use on thousands of different light machines, including gas-engines. They must be free from gasoline and lamp oil, in order that their flash test shall be high enough to prevent

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loss by evaporation. The important point to that is that they shall have the proper viscosity for the use intended.

The next group is that of steam-cylinder oils, which consist of the heaviest hydrocarbons contained in certain crude oils. In this case also the flash must be such that the oils will not evaporate in a steam cylinder, and must have the proper viscosity for the use intended at the temperature of the cylinder.

The next group—paraffin wax—consists of a mixture of hydrocarbons of the paraffin series about $C_{23}H_{48}$ to $C_{35}H_{72}$. The commercial article is rated according to the melting-point, which varies from 100° to 135° F.

The next group—vaseline or petrolatum—consists of the higher members of the paraffin series which settle from crude oil mixed and inseparable from some of the oily constituents of the crude. It is marketed as the light-coloured material used in medicine and for toilet purposes, or as the dark-coloured, sticky material used in large quantities by the makers of oiled paper.

The next group—the dust-laying oils—consists of petroleum asphalt in solution in oils similar to gas oil. The basic idea in their manufacture is that the solvent will slowly evaporate, leaving the dust particles covered with a sticky, adherent film. These oils have proven successful as a cheap means of laying dust.

The next group—the road-binders—consists of petroleum asphalt properly fluxed with heavy petroleum oils that will not evaporate, and of such qualities that they will bind the road materials together both in summer and winter.

The next group—coke—contains but one member. This material, being almost entirely free from ash, is used very extensively by makers of electric carbons.

1. These are the desired products. Now let us look at the crude oils from which they are obtained.

2. There are about as many varieties of crude oil as there are oilfields; but the refiner recognises three distinct types, because each type must be handled by different methods, viz.:—(1) The paraffin base crude, similar to that found in Pennsylvania and West Virginia, and being essentially light-coloured crudes containing paraffin. (2) Asphalt base crudes similar to those found in Texas and California, and being essentially black, and containing no paraffin. (3) Mixed base crudes similar to those found from Ohio to Oklahoma, and being essentially mixtures of paraffin and asphalt base crudes.

3. In order to obtain some idea of the chemical and physical nature of the crude oil, let us imagine a sample of mixed base crude brought into the laboratory for a thorough examination. The chemist would probably distil the sample in a vacuum or in some similar manner in order to avoid destructive distillation, and would save the various fractions separate. He would not distil off more than 90 per cent. because the heaviest 10 per cent. cannot be distilled without breaking it down into simpler molecules. He will then start to examine the various fractions, and will keep a record. The first fraction will be a light, mobile mixture of hydrocarbons, whose average boiling-point is about 227° F. The second is a slightly darker and slightly less mobile mixture of hydrocarbons, whose average boiling-point is about 295° F. The third cut again darker, heavier, and less mobile, boiling-point 369° F. The fourth cut still heavier, and 460° F.

boiling-point. The fifth cut is about 530° F. boiling-point. The remaining cuts are increasingly heavier, more viscous, and darker in colour, and the residue in the still is a soft pitch. The chemist now asks what these ten fractions are chemically, and he recognises four groups of compounds in each fraction that the refiner may have to isolate or remove. He can isolate this group by bone-black or fuller's earth. When isolated in a pure state it is a jet-black brittle compound, which is very similar to the purest asphalt. A second important class of compounds is the material soluble in strong sulphuric acid. The low-boiling members of this group represent the odour-bearing compounds of the crude, while the higher members are rich in sulphur, and are easily oxidised. The refiner frequently has to remove a portion of this class. A third group is that of aromatic hydrocarbons, benzol, naphthalene, anthracene, etc., which may be removed by agitating the oil with fuming sulphuric acid. The remainder of the crude oil unattacked by fuming sulphuric acid is made up of the naphthene and paraffin series. The amount of colouring is very small in the low-boiling fractions, but very high in the high-boiling fractions, and conversely, the amount of paraffins and naphthenes in the low-boiling fractions is very large, while in the residue it is very small. Taking paraffin base crude and an asphalt base crude, the paraffin base crude contains very little, the asphalt base crude very much, colour or asphalt. Also the paraffin base crude contains very much, and the asphalt base crude very little, paraffin and naphthenes. Also the paraffin base crude contains very little, and the asphalt base crude very much, of the aromatic group.

4. Now, starting with crude oil, it is the task of the refiner to isolate the commercial products that I have shown you. He will be guided in this decision by his local conditions. If it be the refiner's desire to produce the maximum amount of gasoline and lamp oil, he will use "cracking distillation." If, on the other hand, he wishes to produce the maximum yield of the heavy lubricating oils and petroleum asphalts, he will use fractional distillations, which means that he will simply separate from the crude oil the various fractions which compose it, while the refiner who uses the cracking process actually breaks down these heavy fractions by destructive distillation in a manner similar to the production of benzol and gas by the destructive distillation of coal.

5. The first step in the cracking process is the cracking distillation. The crude oil is pumped into stills containing 500 to 1,000 barrels, which consist simply of horizontal steel cylinders made of sheets of half-inch boiler steel riveted together, and provided with manholes on top and ends; with pipe for pumping oil into stills; with vapour line for conducting the distilled vapours to a condenser; with safety-valve; with combustion-chamber underneath; with fractional air condensers and with water-condenser; and with pipe for conducting away the gases involved during the distillation.

To be continued.

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„ Carpathian	6,700	„ „	6 200	„ Le Coq ...	4,700
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Company.	Share Capital.	Value of Shares.	Latest Prices.
	£		
Anglo-Maikop Corporation...	650,000	£1	$\frac{1}{2}-\frac{9}{16}$
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000.	£1	$\frac{2}{3}-\frac{3}{4}$
„ 5% Deb. Stock ...	600,000	£100	84-88xd
Assam Oil ...	310,000	£1	$\frac{9}{16}-\frac{11}{16}$
Baku Russian Petroleum Co.	750,000	10/-	3/9-4/3
Bibi-Eibat Oil Co. ...	312,500	10/-	5/0-6/0
Californian Oilfields...	500,000	£1	$4\frac{1}{2}-4\frac{3}{4}$
European Oilfields ...	385,000	10/-	6/0-7/0
Lobitos Oilfields, Ltd. ...	400,000	£1	21/6-22/6
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{11}{16}-\frac{13}{16}$
Pacific Oilfields, Ltd. ...	250,000	£1	2/0-3/0
Roumanian Consolidated Oilfields ...	1,750,000	£1	$\frac{15}{16}-1$
Russian Petroleum Co. ...		10/-	1/10 $\frac{1}{2}$ -2/4 $\frac{1}{2}$
Schibaieff Petroleum, new Pref. (fully paid) s/s		—	$\frac{1}{16}-\frac{1}{8}$
„ „ new Ord.	575,000 s/s	(fully paid)	12/0-13/0
Shell Transport and Trading	2,500,000	£1	5-5 $\frac{1}{16}$
„ „ „	1,200,000 Pref.	£10	10 $\frac{1}{2}$ -10 $\frac{1}{2}$
Spies Petroleum Co. ...	600,000	10/-	20/6-21/6xd

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	678	701
Caspian Society (Issue 1910) ...	1,000	3,060	3,080
A. I. Mantascheff & Co. ...	250	650	660
Nobel Bros. ...	5,000	17,860	17,900
Nobel Bros. (Issue 1912) ...	—	908	912
Russian Naphtha Society ...	100	262	264
Ter-Akopoff Co. ...	250	284	287
Lianosoff & Co. ...	100	261	263
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	386	387 $\frac{1}{2}$

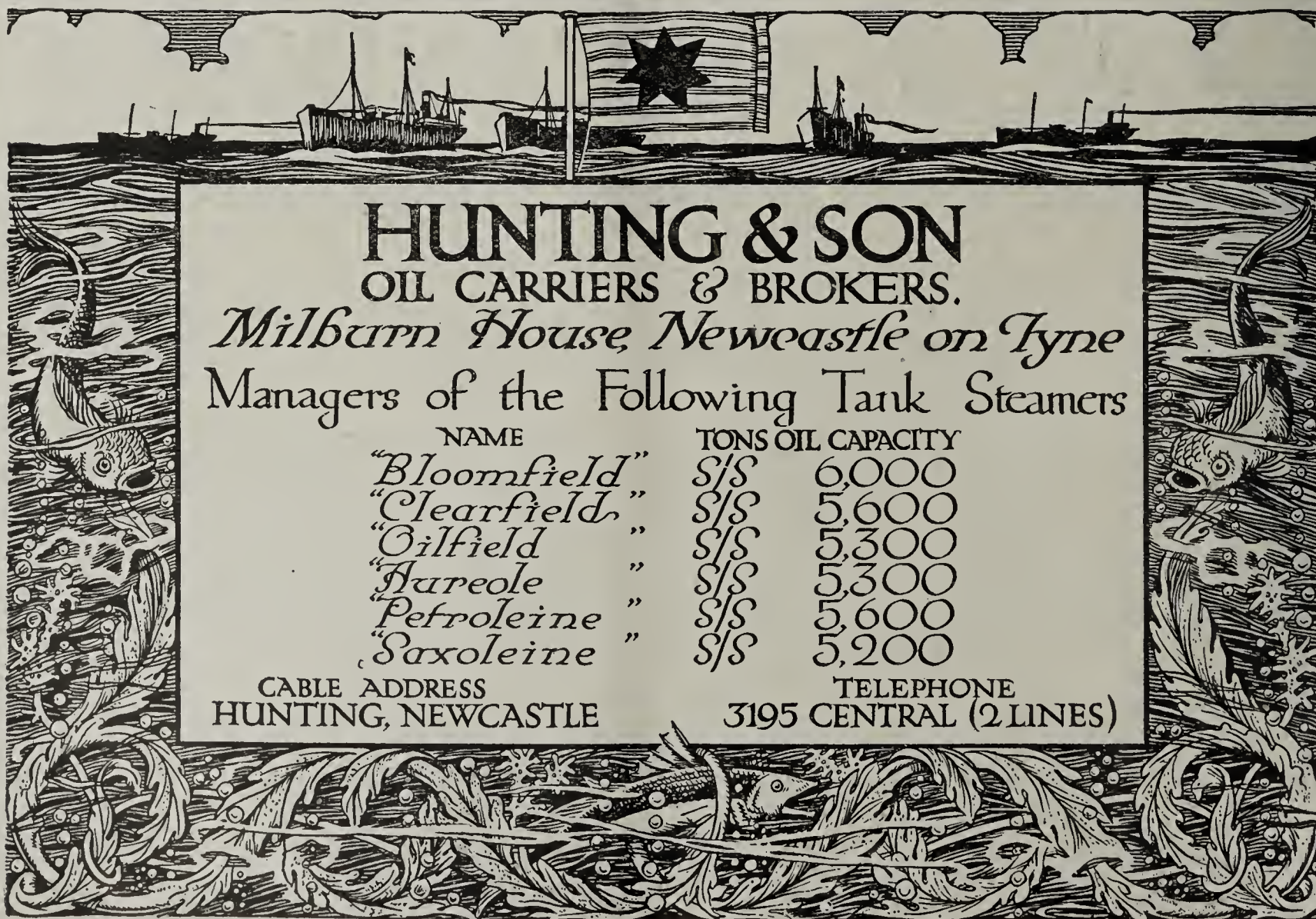
SCOTCH PRICES.

Supplied by Messrs. MACLEAN & HENDERSON, Stirling.

Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
British Australian Oil Co., Ltd. ...	300,000	£1	3/0
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	35/6
6% Cum. Pref.	100,000	£10	£11
Burmah Oil, Ord. ...	1,100,000	£1	68/6
„ Pref. ...	250,000	£1	24/3
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
5% Pref. ...	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	5/10 $\frac{1}{2}$
Mexican Eagle Oil, Ltd., Non. Cum. Pref. ...	\$8,500,000	\$10	39/0
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	33/9
„ Pref. (£1 paid) ...	100,000	£1	23/0
Pumpherstons Min. Oil Co., Ltd. Ord. (17/- paid) ...	110,500	17/-	5 $\frac{5}{8}$
6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	9/0
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	68/6
„ „ „ „ B „ Deb. ...	160,000	£100	£160

DUTCH COMPANIES.

Company.	Quotations (per cent.).
Dordtsche Petroleum Industrie My., Ord. ...	Aand 185 $\frac{1}{2}$
„ „ „ „ Pref. ...	„ 188 $\frac{1}{4}$
Royal Dutch Petroleum Co. ...	„ 616
Moeara Enim Petroleum Maatschappij ...	„ 240
Perlak Petroleum Maatschappij ...	„ 65 $\frac{3}{4}$
Sumatra Palembang Petroleum Maatschappij ...	„ 224
Zuid Perlak Petroleum Maatschappij, Pref. ...	„ 59
Tarakan Petroleum Maatschappij ...	„ 113



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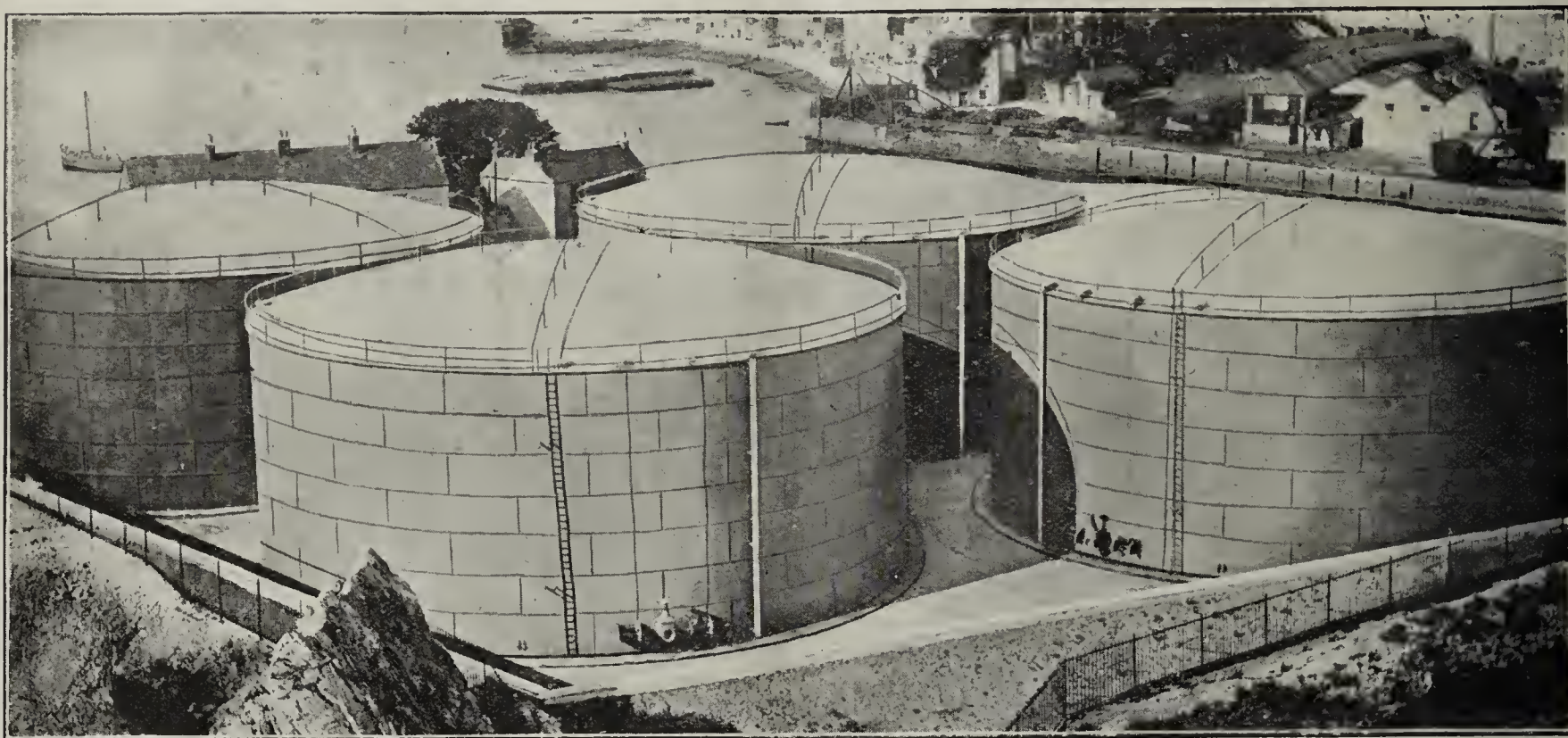
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CHIEF CONTENTS.

Editorial Notes 3
The Baku Oil Situation 5
England's Enormous Trade in Petroleum Products 15
A Promising New Russian Oilfield 19

— THE —
PETROLEUM REVIEW,
45, St. Mary Axe, LONDON, E.C.
American Office: 111, Broadway, New York.
SATURDAY, JULY 5TH, 1913.

ENGLAND'S ENORMOUS TRADE IN
PETROLEUM PRODUCTS.

THE petroleum trade of the United Kingdom is truly reaching remarkable proportions. During the past decade it has witnessed many substantial extensions—extensions which have been the natural sequence to the advent and growing popularity of the internal combustion engine—yet none have been so apparent as those which are at the moment taking place in regard to consumption.
The official figures of the imports of petroleum products, which are specially furnished the "REVIEW" by the Custom House authorities eloquently point to the fact that our trade in petroleum products is consistently broadening, until it has already assumed a magnitude not easily appreciated. The total imports of these products for each half year have for a long time shown steady progress, yet none can compare with the present returns governing our last six months'

trade in point of such substantial increases in consumption. The gain in our petroleum import trade for the first half of the present year is certainly without parallel. Not only is this the case in connection with our total imports of petroleum products, but it also applies to every classified product without exception, thus conclusively showing that one branch of the petroleum trade is not advancing to the detriment of another.

During the first half of the present year the United Kingdom has imported no less than 200,000,000 gallons of petroleum products, or 30,000,000 gallons more than during the corresponding period of last year, and over 25 per cent. more than was the case six years ago. Of this total quantity considerably over one half has been furnished by the United States, the exact figures being 118,000,000 gallons—a fact which in itself suggests the enormous hold which American petroleum products have in these islands. Russia, the Dutch Indies and Roumania, which stand as our next important suppliers of petroleum products cannot claim 20,000,000 gallons each for the past six months, yet even in their respective cases each country show distinct advancement when the figures for the first half of this year are compared with those for the similar period of 1912. The greatest increase, however, is recorded in regard to the imports of Russian oils, and here the Empire of the Czar has more than doubled her share of petroleum trade with this country, for in the first half of 1912, she sent to this country under 9,000,000 gallons. A perusal, therefore, of the countries of origin of our petroleum products points to the fact that while America holds the bulk of this country's oil trade in its hands, the Far Eastern and European oilfields are steadily gaining ground, though when their contributions are combined, they scarcely equal one half that supplied from America.

An analysis of the imports of the various petroleum products shows in what a marked degree the utilisation of petroleum and its products for power purposes has benefited this country's petroleum importing and distributing trade. Let us first take motor-spirit, which in spite of many more or less successful experiments, stands to-day as the one universal power for internal combustion engines. For the first time in history, this country has imported motor spirit at an average of almost 2,000,000 gallons per week, since the total for the six months is just over 50,000,000 gallons. For the first half of 1912 we imported about 35,000,000 gallons, while during 1906 the twelve months' motor-

spirit imports only reached 25,000,000 gallons. Going back ten years ago, the demand for motor-spirit was so small, and the quantities imported so inconsiderate, that the Customs authorities did not even trouble to specially classify them. But even with a continuance of the past progress in the demand for motor-spirit, we see not the slightest sign of a petrol famine. New high-grade oil-producing fields are now being actively developed, while the adoption of new principles of treatment is materially increasing the amount of light oils suitable for the automobile. In America to-day, for instance, the enormous quantities of natural gas, which have hitherto gone to waste, are now to a large extent being condensed into motor-spirit, and before the end of the present year, it is stated upon high authority, that no less than 50,000 gallons per day of motor-spirit will be marketed from this source alone.

One thing, however, is certain: the motorist need not look for any great drop in the present motor-spirit prices. All he can hope to do is to take advantage of temporary declines, which will no doubt be announced by the old importing and distributing concerns when they are threatened with opposition, and this we believe may come in the not distant future.

The fields of the Far East are to-day responsible for nearly one half of our total motor-spirit imports, but America is steadily regaining her lost ground, for her motor-spirit imports to the United Kingdom for the past six months are 50 per cent. above those for the first half of 1912, while Russia has sent 8,000,000 gallons as compared with practically nothing up to the corresponding time last year.

The popularity of the internal combustion engine has also brought with it a greater demand for high-class lubricants, for high-speed engines must of necessity be thoroughly lubricated.

This year, up to the commencement of the present week, we have imported over 35,000,000 gallons of lubricating oil—another record figure. Here again America takes the vast bulk of the business. She provides no less than 75 per cent. of the total, Russia coming forward with the remainder.

In regard to liquid fuel, our past six months' imports also constitute a record, and this in spite of the serious drawbacks of ocean freights, which bring liquid fuel prices to an almost absurd figure. So far this year we have imported over 15,000,000 gallons of liquid fuel, or practically double the quantity we did for the corresponding period of 1912, but it must be understood that in neither case do these totals include the Admiralty supplies.

It can therefore be said with truth that to-day the petroleum trade of this country is occupying a position, the importance of which, even a few years ago, was undreamt of.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO JUNE 30th, 1913.

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IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since June 23.	From Jan. 1.	Since June 23.	From Jan. 1.	Since June 23.	From Jan. 1.	Since June 23.	From Jan. 1.	Since June 23.	From Jan. 1.	Since June 23.	From Jan. 1.	Since June 23.	From Jan. 1.	Since June 23.	From Jan. 1.
Belgium ..	—	—	10,300	347,033	—	—	—	—	—	—	—	120	—	4,240	10,300	362,393
Canada ..	—	—	—	4,000	—	23,940	—	—	—	—	—	—	—	—	—	27,940
Dutch Indies ..	—	—	—	—	—	—	—	—	925,000	19,366,990	—	24,500	—	—	925,000	19,391,490
Germany ..	—	127,740	348,600	1,960,960	—	—	—	53,300	—	—	—	—	—	2,400	348,600	2,144,400
Holland ..	—	—	—	7,170	—	—	—	—	30,000	4,123,340	—	—	—	440	30,000	4,130,950
Mexico ..	—	3,412,400	—	—	—	—	—	—	—	734,700	—	7,082,550	—	—	—	11,229,650
Roumania ..	1,770,000	9,168,767	—	—	—	—	—	1,150,000	—	1,103,000	—	7,502,140	—	—	1,770,000	18,923,907
Russia ..	—	4,305,680	911,160	7,409,590	—	238,770	—	—	—	7,924,590	—	—	—	—	911,160	19,878,630
U.S.A. ..	1,422,000	49,495,066	460,560	25,413,084	—	111,800	967,720	29,045,990	—	12,393,750	—	1,329,890	14,600	571,635	2,864,880	118,361,215
Other Countries	—	80	9,830	75,430	—	480	—	—	—	4,859,240	—	620	300	1,260	10,130	4,937,110
	3,192,000	66,509,733	1,740,450	35,217,267	—	374,990	967,720	30,249,290	955,000	50,505,610	—	15,939,820	14,900	579,975	6,870,070	199,387,685

NOTES FROM THE OILFIELDS.

AMERICAN.

A Good Coalinga Well.—The largest well with but one exception drilled in the Coalinga field has been brought in by the Turner Oil Company. It is reported to be now producing about 8,000 barrels daily, the whole of which is being saved in temporary reservoirs and dams.

Natural-gas Gasoline.—It is reported that the daily production of gasoline from natural gas in the Californian fields now amounts to no less than 12,000 gallons per day, and it is believed that before the end of the year this will have been increased to about 20,000 gallons, for many new large plants are being installed by several producing companies.

The Government Loses an Important Case.—The Midwest Oil Company has been declared by Judge Riner, of the United States District Court of Wyoming, in a decision handed down last month, to have a clear title to \$30,000,000 worth of land in the Salt Creek oilfield. The title was attacked by the Government in order to test the validity of right of the company to hold the land.

To Investigate Interstate Oil Prices.—At the request of Senator Owen the United States Senate has passed a resolution to provide for the investigation into the price of oil produced in Oklahoma and transported through pipe-lines in interstate commerce. The investigation will include the drawing up of a report as to whether the price is artificially fixed below the general market level in the States, and if so, by whom are such prices fixed and the method by which it is done.

Another Independent Association.—It has been decided to organise an independent association of high-grade oil producers in California, and at a recent meeting twenty-two companies agreed to join the new body. These concerns have an average combined output of 20,000 barrels daily, and the idea is to pool the production and sell it to the highest bidder—the Standard, the Associated, or the Union Agency—the association to maintain an attitude of absolute independence from all other interests.

RUSSIAN.

Tenders of Liquid Fuel.—All the tenders for the supply of liquid fuel to the Kazan, Moscow, and Petersburg districts' ways of communication were adjudged to Nobel Bros.

English Coal for the Russian Navy.—The Ministry of the Marine has concluded with English firms a contract for the supply to the Russian Navy during 1913 of 8,000,000 poods of coal at the price of 22½ copecks per pood.

Coal Free of Duty for the Railways.—In view of the high prices of liquid fuel, the Ministry of Trade and Industry is now considering a project of allowing coal from abroad to be imported free of duty for the exclusive consumption of the State railways.

Pipe-line Grosny-Petrovek.—The Akhverdoff Company has addressed the Grosny administration with a demand for granting it permission to lay a large pipe-line (Grosny-Petrovek-Dagestan) for the purpose of loading the Volga steamers with petroleum products.

T. N. Ter Akopol Company.—The total income of this company for the past year amounts to 1,283,365 roubles, out of

which the net profits amount to 748,292 roubles. Of this sum 360,000 roubles are distributed to the shareholders at the rate of 20 roubles per share.

Liquid Fuel for the Samara Railway.—The Samara-Slatovst Railway has acquired 3,000,000 poods of liquid fuel for its needs during the current year. This quantity amounts to but 25 per cent. of the total quantity of liquid fuel usually tendered by the railway. The deficiency of 75 per cent. will be covered by coal. The whole of the 3,000,000 poods is supplied by Nobel Bros.

ROUMANIAN.

Italo-Romana.—The general meeting of the shareholders of this company will take place on July 12th.

Colombia Company.—The shareholders of this company are invited to attend the general meeting, which will take place on July 10th at Bucarest.

The Colombia Well.—The well "Colombia" at Moreni-Tzuicani continues yielding 650 tons a day. The total production up to the present has reached a figure of 324,000 tons.

New Consolidation Law.—The new law "for the regularisation and consolidation of the rights to explore for petroleum and ozokerite on private properties" has now been promulgated.

New Boring Enterprise.—The "Deutsche Bohrgesellschaft für Erdöl" has been formed in Berlin with a capital of 520,000 marks, for the purpose of executing boring contracts in Roumania and Galicia.

Steaua-Romana at Runcu.—The well 232 of the Steaua-Romana at Runcu, which has proved the value of this field and has struck oil at a depth of 442 metres, is now yielding from 40 to 50 tons a day by eruptions.

Production.—The general production is very good and varies between 5,300 and 5,500 tons a day. Especially high is the production on the Moreni fields (Stavropoleos, Tzuicani and Bana), amounting to over 3,000 tons a day.

Prices.—The prices of crude oil is maintained at the former level. The demands are numerous, but there is no oil for disposal on the market. Prices on the interior markets have not changed. There is a great demand for residuals.

Astra-Romano.—The production of this company during the week averaged 1,376 tons, of which 989 tons were obtained at Stavropoleos, 293 tons at Bana, 69 tons at Campina, 20 tons at Filipeshti, and the remainder on the other fields.

The Steaua-Romana.—The production of this company during the week averaged 1,200 tons a day, of which 670 tons were obtained at Campina and 260 tons at Policiori. In regular eruptions are the wells 160 Gahitza with 40 tons, and well 1 Moreni with 30 tons a day. Several other wells show irregular eruptions with a good yield.

State Pipe-Line.—On July 25th the adjudication for the crection of the pump stations and dwellings at the pumping stations of Baicoi, Ploeshti, Buzau, Hagieni and Palaz will take place. A portion of the new pipe-line is now laid down, and experiments made on this portion under a pressure of 100 atmospheres were quite satisfactory.

DETAILS OF BAKU PRODUCTION DURING MARCH.

THE following are the details of the production of crude oil at the Baku oilfields during March, as published in the latest issue of the *Neftiannoie Dielo* :—

the latest issue of the <i>Neftunhote Dnev</i> :—							PRODUCTION (in poods).				Average per Well per Day.			
							Number of Wells in exploitation.	By Baling.	By Spouters.	Casual.		Total.		
Balakhany	...	...	...	...	...	...	925	5,503,284	—		169,620	5,672,904	202	
Saboontchi	...	..	...	...	...	...	1,171	13,853,783	—		215,871	14,069,654	400	
Ramany	...	...	...	...	...	..	295	6,559,919	—		63,288	6,623,207	757	
Bibi-Eybat	...	...	...	...	...	...	314	7,846,446	168,771		32,214	8,047,431	883	
Total							...	...	...	...	...	...	...	...
Total for March, 1912							...	...	...	...	...	...	...	...

During the month the spouting production was obtained from Nobel Bros.' well No. 35 (168,771 poods) at Bibi-Eybat.

COMPANY REPORTS AND MEETINGS.

NEW ZEALAND OILFIELDS, LTD.

The adjourned annual meeting of the above company was held at Salisbury House, E.C., on Monday, Captain C. L. Wallace taking the chair.

In moving the adoption of the report the chairman said the position of the company was fully set out therein, but in view of the proposal which was to be submitted to an extraordinary meeting, what they had principally to consider was the prospect of making a success of the operations of the future. Their manager was convinced of the presence of oil in the district of their No. 2 bore; all that was wanted was time and money.

After much discussion it was decided to appoint a committee of investigation to go into the affairs of the company from its inception, the extraordinary meeting not being held.

MAIKOP PIPE-LINE AND TRANSPORT COMPANY, LTD.

The directors of the Maikop Pipe-Line and Transport Company, Ltd., in a circular to the shareholders dated June 26th, state that, by the absorption, last December, of the undertaking of the Maikop Mutual Oil Transport Company, Ltd., the company became possessed of the plant, machinery, and installations for two complete pipe-lines to Touapsé Port. As the present production of the Maikop field can be satisfactorily handled by the Ekaterinodar pipe-line and by one pipe-line to Touapsé, the directors and the trustees for the debenture-holders have been in negotiation for the disposal of the surplus pipes, plant, and machinery. As a result, a sale has been effected of the surplus pipes originally intended for the second pipe-line to Touapsé at satisfactory prices, realising about £63,000. The company has in reserve surplus plant and machinery sufficient to increase the capacity of the pipe-lines to such an extent that it will be able to handle about four to five times the present output of the field. Part of the proceeds of this sale is being used for the construction of a pipe-line from the new oilfields at Krimskaya to the Vladikavkaz Railway. This, it is anticipated, will be completed by the middle of July. It is estimated that the total expenditure, apart from the pipes and plant previously in hand, will not exceed £6,000. In addition to the operation of the sinking fund, it is proposed to utilise part of the £63,000 in redemption of further debentures. The accounts of the company for the past year are now in preparation, and the directors anticipate that the same will be early circulated.

SOCIÉTÉ FRANÇAISE DE PETROLE, LTD.

The ordinary general meeting of the shareholders of this company was held on Monday at Winchester House, E.C., Mr. C. J. Baker, the company's chairman, presiding.

In moving the adoption of the report and statement of accounts the chairman said that though they had not got oil, the indications which they had encountered had been very favourable, and nothing had happened to make them less confident that their properties covered an oilfield. Their position was not satisfactory, however, owing to the fact that the money raised by the issue of preference shares—which money the directors had hoped would prove their properties—had nearly all been exhausted, and so, unless substantial response was made to their offer to subscribe for further preference shares, it would be necessary for them to close down active work in the immediate future, so as to leave them with a sufficient amount of funds in hand to enable them to retain their properties. Pioneer work was always very expensive, and in that respect their company was not by itself. They had already made application to the Colonial Office for assistance, but what response might be given he could not say. The fact remained that the prospects were to-day better than when they raised the money to continue drilling. Oil had materially advanced in price, and the necessity for oil throughout the world was greater than ever before, and none of the work they had carried out had done anything excepting to prove their property as a potential oilfield.

The report was unanimously adopted, and the retiring directors, Messrs. C. J. Baker and A. Mitchell, were re-elected.

SOUTH OF ENGLAND NATURAL GAS AND PETROLEUM COMPANY, LTD.

Mr. E. E. Rouse presided on Friday week, at the annual meeting of the South of England Natural Gas and Petroleum Company, Ltd.

In moving the adoption of the report the chairman said the position of the company at the present time was favourable to the shareholders, but money was urgently required to carry on the business. Some suggestions had been made for modifying the original programme of the company, which had been to bore for oil, and in view of the developments which had been taking place in other countries, especially in America, where gas had been put to commercial use for the manufacture of motor spirit, the directors had under consideration a plant for this purpose. They had a definite programme in front of them, involving a comparatively small expenditure, for the utilisation of their properties and concessions in Sussex in this manner, turning them into a going concern. This was considered a better plan than going 2,000 or 3,000 ft. with the sole object of obtaining oil. In view of expert opinion, there could not be the slightest doubt that oil existed in the substrata; but the first object of the company must be to earn a dividend, however small, and with that in view the directors had come to the conclusion that they should first endeavour to utilise the gas, which could be obtained with a comparatively small expenditure. While this was going on they could continue boring for oil.

Mr. Wallace Heims (managing director) said they had the finest indications of gas and oil, but people would not believe in the field because it was too near home. Another difficulty was that the local landowners were gentlemen who had retired to that neighbourhood to live in tranquillity, and did not wish it converted into a second Birmingham.

The report was adopted.

CENTRAL MINING AND INVESTMENT CORPORATION, LTD.

Circulars have been issued by the General Petroleum Properties of Trinidad, Ltd., the B.W.I. Syndicate, Ltd., and the Trinidad Forest Reserve Oil Company, Ltd., stating that the Central Mining and Investment Corporation, Ltd., have notified them that the form of a new lease, on terms satisfactory to that corporation, has been agreed with the Crown Agents for the Colonies on behalf of the Government of Trinidad, and accepted by the Secretary for the Colonies; and a preliminary agreement has been settled with the Crown Agents subject to the approval of the Governor of the colony providing for the grant of such lease.

The agreement with the Central Mining and Investment Corporation, which was approved by shareholders on December 18th, 1912, provides that the Central Mining and Investment Corporation shall purchase all the properties of the General Petroleum Properties of Trinidad and of the B.W.I. Syndicate in Trinidad. The completion of the sale, therefore, now only awaits the consent of the Governor of Trinidad.

The consideration for the sale by the General Petroleum Properties of Trinidad is £125,000, to be satisfied by the allotment of 125,000 fully paid shares of £1 each in a new company to be formed by the Central Mining and Investment Corporation, which is to settle and discharge the debts and liabilities of the company up to an amount of £11,500. The consideration for the sale by the B.W.I. Syndicate is £2,500, to be satisfied by the allotment of 2,500 fully paid shares of £1 each in a new company. The Trinidad Forest Reserve Oil Company is selling to the Russper Syndicate, Ltd., and the consideration for the sale is £37,000, to be satisfied by the allotment of 35,000 fully paid shares of £1 each in a new company to be formed by the Central Mining and Investment Corporation and £2,000 in cash.

The new company is to have a capital of £550,000, of which £100,000 is to be provided for working capital, and is to be formed within four calendar months from June 27th.

MR. L. G. HUNTLEY, of the Associated Geological Engineers, is at present engaged in a study of the Pelican Portage gasfield and other localities in Central Alberta for the City of Edmonton.

A PROMISING NEW RUSSIAN OILFIELD.

RECENT DEVELOPMENTS IN THE KRIMSKAYA REGION.

*Special to the
"Review."*

THERE is ample evidence to show that in the near future the Krimskaya region of the Kuban Province will not only attract considerable attention on the part of oil investors, but it will be the most prominent centre of activity in regard to serious oil developments.

Geographically the field is most advantageously situated, while geologically, though detailed reports are not numerous, sufficient is known to justify high hopes of the district being one of the most petroliferous in the whole of the Russian Empire. In the Krimskaya

British capital, and already we have ample proof that the production of crude oil will henceforth continuously increase.

The Anglo-Maikop Corporation were the first to enter the field on behalf of the English capitalist, and it says much for the foresight of Mr. George Tweedy that such attractive lands were secured for drilling purposes. It was early recognised that the region was prolific in its oil-bearing strata, and as a result of a survey of the region, active developments were quickly



General View of the Levanovskoe Region near Krimskaya.

district, spasmodic drilling has been carried out for many years: in fact as far back as 1866, Sir Boverton Redwood, in the latest edition of his book on "Petroleum" records the fact that near Krimskaya, Colonel Novosiltzoff commenced drilling and at the shallow depth of 123 ft. encountered the first flowing well in the Kuban Province, while when the well was drilled to 242 ft. the flow became uncontrollable. Twenty years later another well became a fountain and gave 25,000 poods per day from a depth of not 200 ft.

These facts alone establish the great possibilities of the Krimskaya region, and it is more than passing strange that considering the energy which has for years past characterised oil developments in the Russian Empire at spots far removed from each other, the Krimskaya district should not have received serious attention from operators until quite recently.

Now, however, the district is being developed upon up-to-date commercial lines, thanks to the influx of

commenced. The Corporation brought in its first well in August, 1911.

As a direct outcome of the satisfactory results achieved, the Maikop Midland Oilfields, Ltd. (having decided to await the result of the deep drilling operations at Maikop before developing its properties there), acquired a large territory in the Krimskaya fields from the Anglo-Maikop Corporation, taking over also the properties upon which the producing well was drilled, and which is now known as the Midland No. 1 well. After a time great difficulty was encountered in regard to shutting off the water, and it was eventually decided to drill the well to a deeper oil horizon in view of the highly satisfactory results achieved on an adjoining property. That the Maikop Midland Company appreciate the potentialities of their properties in the Krimskaya field is seen from the fact that not only are they now engaged upon an extensive drilling programme, but much of the plant and machinery originally ordered for the Maikop fields has been transferred to Krimskaya. At the present time the

Company has five wells in drilling, inclusive of their No. 1, which, it should be recollected, produced large quantities of oil before it became corked and then water-logged. The Company's No. 2 well is now at a depth of 1,648 ft., and has already overflowed. This well is expected to prove another fountain, but great precautions have to be taken to guard against fire, inasmuch as the gas pressure is phenomenal. The Company's No. 3 well is producing at the rate of 3,000 poods per week, while the well No. 4 is near the prolific oil sands at a depth of nearly 1,400 ft. The Company has taken a wise step in drilling this well with a large diameter, so that when the oil sands are reached, it may be expected that the production of crude oil from the well will be even greater than that obtained from any well previously. Active boring is proceeding in No. 5 well, which is now at a depth of 1,053 ft.

The Levanskoe Petroleum Company, Ltd., however, is one of the most important English companies which is destined to figure as a prominent producer in the new Krimskaya field. With a share capital of £300,000, a

reached the oil sands, but drilling is stopped pending the completion of storage and pipe-line connections.

When the necessary transport facilities are completed, and this will be the case in about ten days' time, the Levanskoe Petroleum Company will almost immediately be in a position to sell large quantities of crude oil, upon which transactions considerable profits are already assured, for the crude oil is of exceptional



strong board of directors, and the management in the experienced hands of Mr. George Tweedy, the company has, by reason of its financial resources, been in an exceedingly favoured position from the commencement of its career. As will be seen from the accompanying plan, it holds a vast acreage in one block on the north-west side of the new field. The company is actively developing its holdings, the valuable nature of which is seen from its No. 1 well. This well last month came in a fountain and gave a production at the rate of 15,000 poods daily. The well became corked—quite a natural sequence to a strong oil flow—and now huge storage tanks are being erected in order to store the crude oil when the well is re-opened. Meanwhile, such is the enormous gas pressure, that about 1,500 poods daily is being forced up through the space between the casings. Four other wells are in hand, and the first of these has practically

high grade, containing, as it does, considerably more than 20 per cent. of benzine. The pipe-line, it should here be mentioned, is being constructed by the Maikop Pipe-line and Transport Company, Ltd., and will run from the field to the railway station at Krimskaya, a distance of about eight miles, large storage accommodation being provided at both ends. The available storage in the immediate future will not be far short of 600,000 poods, or, approximately, 10,000 tons.

The Anglo-Maikop Corporation, too, is not unmindful of the great opportunities which exist in the Krimskaya field for profitable operations, and at the present time the corporation is sinking three steam wells and seven hand-dug wells on the 800 acres it holds on the field.

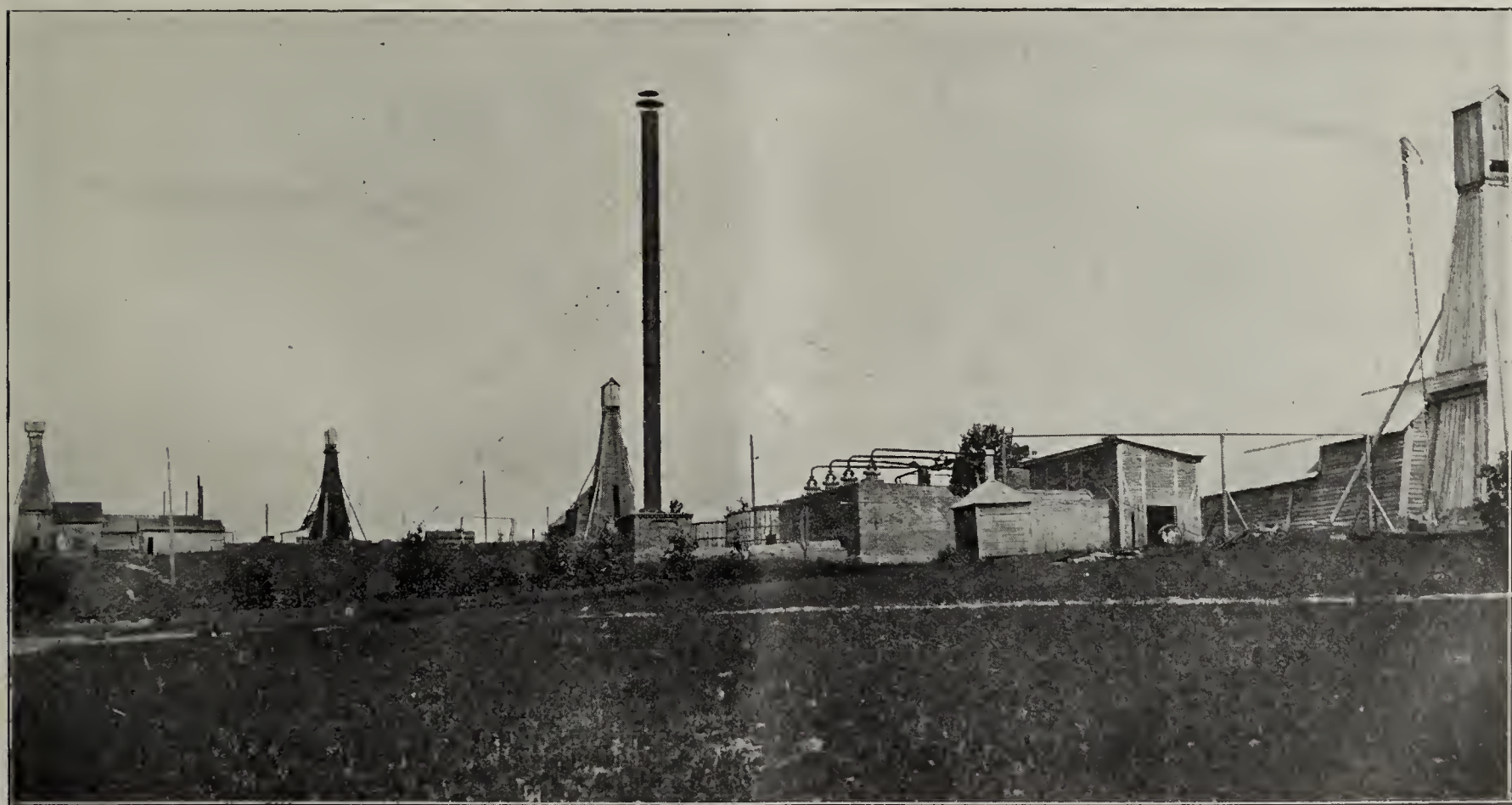
From the foregoing it will be seen that not only does the Krimskaya field offer almost unique opportunities for the investment of capital, but the fullest advantage is already being taken of these opportunities.

DEVELOPMENTS IN THE KRIMSKAYA FIELD.

For Description see Preceding Pages.



The Maikop Midland and the Ievanovskoe Companies' Wells at Ievanovskoe.



Krimskaya: Showing the Wells and the Boiler-house of the Maikop Midland Company.

LATEST COMPANY REGISTRATIONS.

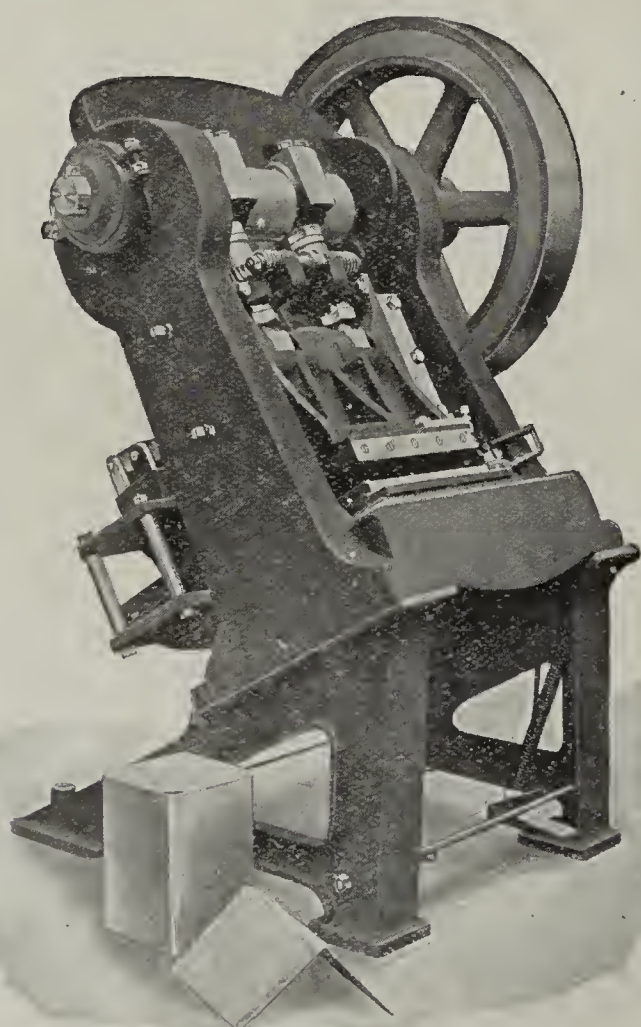
KERTCH-TAMAN OILFIELDS, LTD.

REGISTERED June 25th, by Messrs. Rutherford & Co., 48, Cannon Street, E.C. Capital, £500,000, in £1 shares. Objects: To acquire oil, petroleum and mineral-bearing lands and claims, options and concessions over oil and petroleum-producing and mineral properties, together with wells, fixed and loose machinery and plant, pipes, refinery works and petroleum undertakings; to carry on the business of manufacturers and refiners of oils and petroleum spirit, dealers in products of oils, etc., in Russia. For the consideration of £150,000 payable in shares, the company shall have transferred to them (*inter alia*) properties at Kertch and Taman, as referred to in an agreement between the company and Oilfields Finance Corporation, Ltd. The signatories are: R. Barnett, 48, Cannon Street, E.C., chairman of Oilfields Finance Corporation, Ltd.; W. W. Rutherford, M.P., Heathfield, Waterloo, Liverpool; S. C. Rogers, 125, High Road, Wealdstone, Middlesex; C. F. Bird, Roselea, Kendall Avenue, Purley; S. H. Blake, 75, Alberta Road, Bush Hill Park, N.; H. E. Rollins, 677, Wandsworth Road, Clapham, S.W.; J. Kearney, 16, Porten Road, West Kensington Park; E. M. Court, Lowfield Heath, near Crawley. Minimum cash subscription, seven shares. The first directors (to number not less than two nor more than seven) are: R. Barnett, W. W. Rutherford and E. M. Court. Qualification, 500 shares. Remuneration, £250 each per annum (chairman £350, and deputy-chairman £300), free of income

tax, and 10 per cent. of the profits available for dividend, divided between them. Registered office, City House, 48, Cannon Street, E.C.

CHICIURA OILFIELDS OF ROUMANIA, LTD.

Registered June 25th, by Messrs. Rutherford & Co., 48, Cannon Street, E.C. Capital, £500,000, in £1 shares. Objects: To acquire oil, petroleum and mineral-bearing lands and claims, options and concessions over oil and petroleum-producing and mineral properties, together with wells, fixed and loose machinery and plant, pipes, refinery works and petroleum undertakings in Roumania; to carry on the business of manufacturers and refiners of oils and petroleum spirit, dealers in products of oils, etc., in Roumania. For a consideration of £150,000, in shares, the company shall have transferred to them (*inter alia*) properties at Chiciura and other places in Roumania, as referred to in an agreement between the company and the Roumanian Consolidated Oilfields, Ltd. The signatories are:—W. W. Rutherford, M.P., Heathfield, Waterloo, Liverpool; R. Barnett, 48, Cannon Street, E.C. (chairman of Oilfields Finance Corporation, Ltd.); A. Rutherford, J.P., Kensington Palace Mansions, W.; S. C. Rogers, 125, High Road, Wealdstone, Middlesex; H. E. Rollins, 677, Wandsworth Road, Clapham, S.W.; S. H. Blake, 75, Alberta Road, Bush Hill Park, N.; C. F. Bird, Roselea, Kendall Avenue, Purley. Minimum cash subscription, seven shares. The first directors (to number not less than two nor more than ten) are: W. W. Rutherford, M.P., Heathfield, Waterloo, Liverpool, R. Barnett, and A. Rutherford, J.P. Qualification 1,000 shares. Remuneration, £250 per annum (chairman £350, and deputy-chairman £300), free of income tax, and 10 per cent. of the profits available for dividend, divided between them. Registered office, City House, 48, Cannon Street, E.C.



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The Organisation of Petroleum Fields.

By Mr. CYRIL W. DAVSON, A.M.I.Mech.E.

*Based upon an -
interesting article -
in the 3rd edition of
Sir Boverton - -
Redwood's work on
"Petroleum." - -*



IN all mining and other enterprises in which the operations of a company or syndicate have to be conducted abroad, at some considerable distance from its registered office, the board of directors, as a rule, can merely sketch out the general policy upon which operations are to be conducted, determine their financial magnitude, and then leave the actual organisation and administration to mine managers and superintendents. Now, where the nature of the operations permits accurate designs and plans to be previously prepared so that the responsible administrator, on arrival in the country in which operations are to be conducted, finds himself in possession of a definite "plan of campaign," *e.g.*, such as is the case in the modern cane-sugar factory enterprises, little difficulty as regards organisation should then be encountered. But when we come to oilfield enterprises, where, until the formulation of "Davson's System," no attempts at the standardisation and organisation of field operations had been made, it is not surprising to find that chaos often ensued, frequently resulting in heavy financial losses. It may not also be very widely known, but it is nevertheless true, that oilfield managers have, as a substitute for accurately prepared plans of field operations, been almost compelled to employ a superfluity of staff assistants, the obvious result of which is perhaps best expressed by the old saying that "too many cooks spoil the broth." The simple reason of this is that sections of work, detailed to various members of a staff, which are not part of a common plan, cannot result in systematic progress, but merely in contention and confusion. Every manager in charge of the field operations of an oilfield in any part of the world knows that his first duty is to get "his house in order," and this cannot be accomplished by simply policing his mine with a large staff of white men, but by working on some carefully prepared and pre-determined plans.

The accompanying photograph shows a scheme evolved and carried out in Trinidad on a small scale, and where economy was the chief consideration. The buildings, as will be seen from the photograph, were erected in rough timbering, corrugated iron sheets, and wire mesh, but the materials employed can be varied to suit local conditions. [An improved design, comprising the minimum requirements, has been standardised for adoption in any locality, and a plan of this will be sent upon application to the author at 42, Lansdowne Crescent, Notting Hill, W.—Ed. *P.R.*]

Supplementary requirements, such as those of electric lighting and power plants, machine shops, etc., can be met by merely extending the roof over the area indicated on plan.

A study of this plan will show that the various departments are arranged for the expeditious handling and storage of materials. The offices are placed over a central roadway, and a double narrow staircase is provided at the end of the general office, as essential to the orderly payment of large gangs of men. A drilling machine is also conveniently situated near another opening for perforating casings, etc.

The casing is placed on racks suitably designed to permit of attention to the threads, and can be easily handled without interfering with the other work.

The main store, with its system of shelves and pigeon-holes, provides for rapid assortment of goods not allocated to the smithy or oil stores, but all stores, etc., on their arrival, are first placed in the covered general store-yard, which acts as a depository for this purpose.

Briefly stated, therefore, this scheme consists of aggregating under one roof the various departments necessary to meet drilling requirements, which at the present time are housed in separate sheds and buildings, or, in some cases, even omitted entirely. On an extensive scale this system is carried out by selecting positions for several of these centralised buildings, in the light of the indications afforded by a geological survey, in order that field operations may be most economically conducted.

When this scheme is carried out in a comprehensive manner the various centres are connected with each other and the coast by roads or railways, whilst branch pipe-lines transport the oil to the main arteries leading to the coast, where a refinery may be situated, and where there may also be large stores and repair shops, which cannot be standardised, but must be designed to meet special conditions.

"Davson's system," if intelligently followed out, will thus prove equally applicable both to the work of a small syndicate, and the most extensive work of the world's largest oil combines, the latter possibly entailing the opening up and conducting of field operations over territories practically unlimited in extent.

DEVELOPMENTS IN THE OILFIELDS.

LATEST REPORTS OF ENGLISH COMPANIES

Traian Roumanian Oil Company, Ltd.—Production of crude oil for week ending June 28th, 451 tons.

Anglo-Roumanian Petroleum Company, Ltd.—Production for week ending June 28th, 187 tons.

Roumanian Consolidated Oilfields, Ltd.—Production for week ending June 28th was 2,010 tons.

Maikop Midland Company, Ltd.—Well No. 2—Depth, 1,648 ft; gas very strong; well overflows daily. Well No. 5—Depth, 1,053 ft.

London Oil.—Slouguia, June 27th :—Borehole down 483 ft. in grey sandy shale, smelling strongly of oil, with good show of gas.

Maikop Pipe-Line and Transport Company, Ltd.—Received for pumping for week ending June 28th, 76,235 poods (1,230 tons).

Taman Peninsula Oil.—Well No. 1, 1,204 ft.; formation, grey clay; 12-in. casing set. Well No. 2, 280 ft.; formation, grey clay, with boulders.

Levanovskoe Petroleum Company, Ltd.—Week ended June 28th, 8,320 poods. Well No. 1 still flowing between casing. Well No. 2—Depth, 1,600 ft. Well No. 3—Depth, 220 ft.

Shagirt (Cheleken) Oil.—Estimated production of crude oil for week ended June 21st (n.s.) was 3,515 poods (57 tons), and for week ended June 28th (n.s.), 3,150 poods (51 tons).

Transvaal Oil Shale.—Summary from manager's report, dated June 7th :—At Wildebeestfontein farm bore-hole No. 3.—Seams of coal have been passed through at 100 ft., 4½-ft. thick; at 125 ft., 21½-ft. thick; and at 245 ft., 11-ft. thick. The bore-hole is still in coal measure.

Hungarian National Petroleum Company, Ltd.—Well No. 4 down 929 metres; casing 921 metres, in sandy shale. Well No. 5 down 687 metres; casing 684 metres, in grey shale. Well No. 6 down 326 metres; casing 315 metres, in hard sandstone. Well No. 7 down 635 metres; casing 632 metres, in sandstone.

General Petroleum Properties of Trinidad, Ltd.—The Central Mining and Investment Corporation notifies that the form of a new lease, on terms satisfactory to the corporation, has been agreed with the Crown Agents for the Colonies on behalf of the Government of Trinidad, and accepted by the Secretary for the Colonies; and a preliminary agreement has been settled with the Crown Agents, subject to the approval of the Governor of the Colony, providing for the grant of such lease.

THE BALANCE-SHEETS OF RUSSIAN COMPANIES DURING 1912.

THE balance-sheets of several of the chief Russian oil-producing companies are to hand, these being given below. The extraordinarily high level of crude oil prices reflects itself in the satisfactory positions of the whole of the concerns during the past year.

THE RUSSIAN BEBE-AIBAT COMPANY.

The Moscow-Volga petroleum company, Bebe-Aibat, has concluded the year with a net profit of 118,117 roubles, out of which a dividend of 10 per cent. is paid to the shareholders.

THE ARAMAZD COMPANY.

The eleventh operating year of this company was closed with a profit of 660,988 roubles, out of which sum 320,000 roubles are paid out to the shareholders and the rest to various funds.

THE AKHVERDOFF COMPANY.

The profits of this company for the sixteenth operating year amount to 3,813,056.24 roubles, out of which 2,094,600 roubles are paid out in dividends, 156,029.26 roubles are transferred to reserve, and 692,741 roubles to amortisation.

THE NAFTALAN COMPANY.

The profits of this company for the past year amount to 1,013,559 roubles, being over 40 per cent. on the capital of 2,400,000 roubles. Out of the profits a 10 per cent. dividend will be paid out to the shareholders, and the rest transferred to the various funds.

MESSRS. NOBEL BROS.

The balance-sheet of Messrs. Nobel Bros. for 1912 shows profits totalling 13,372,615 roubles (as against 5,432,376 roubles obtained in 1911), out of which 6,625,133 roubles (against 2,127,057 roubles) are distributed to the shareholders as a 22 per cent. dividend. The total income for the year amounted to 152,987,652 roubles, including sales of petroleum products for 113,587,951 roubles.

MANTASCHEFF COMPANY.

The net profits of this firm for the year 1912 amounted to 4,032,620 roubles, or to 36.60 per cent. on the capital of 11,000,000 roubles. The shareholders are paid a dividend of 45 roubles, or 18 per cent., per share. Amortisation amounts to 1,150,000 roubles; reserves to 202,000 roubles. The total assets of the enterprise are 24,829,136 roubles, and the amortisation fund 7,556,881 roubles.

THE SHIKHOVO COMPANY.

The balance-sheet of this company for the closed (eleventh) year shows an income of 1,284,487 roubles, an expenditure of 477,728 roubles and net profit of 806,759 roubles. Out of the latter 40,337 roubles are transferred to the reserve fund, 393,500 roubles to amortisation, 26,103 roubles to fees for the administration and staff, and 32,908 roubles to State revenue. Out of the rest, 312,000 roubles are distributed to the shareholders at the rate of 26 roubles per share.

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Head Offices: PITTSBURGH.

The American Oil Market.

Saturday, June 21st, 1913.

THE only event of new interest in the crude situation during the week has been the record of the country's exports for May, showing a total of 17,871,913 gallons, valued at \$774,324, as compared with 19,532,606 gallons (\$705,712) for April, and 12,647,298 gallons (\$532,471) for May, 1912. For the eleven months of the current fiscal year the exports of crude amounted to 161,016,372 gallons (\$6,302,577), as compared with 177,186,488 gallons (\$5,920,454) for the corresponding period of last year.

The week's review of operations in the eastern fields of Southern New York, Pennsylvania, West Virginia, Kentucky, Ohio, Indiana and Illinois, says the *Oil Paint and Drug Reporter*, indicates a marked expansion in drilling, a total of 212 completions marking an interval, or thirty-four more than the record of the former week. Despite the more favourable showing of new wells, the current new production registered a material decline, 4,625 barrels as the daily average, or 1,840 barrels below that of the previous week. Of the current week's completions sixty-seven were gas wells or dry holes, as compared with fifty-seven previously. Of the high-grade fields Kanawha county, West Virginia, has been the featuring development during the week. The best strike in the county was estimated as having produced 670 barrels the first twenty-four hours.

Development work is being pushed to its limit in the south-eastern and central Ohio fields. In the deep sand territory of Perry and Hocking counties of south-eastern Ohio a large amount of new work is in progress, and the wells are said to be coming in with an encouraging degree of regularity. The good producer recently drilled in Perry county, starting at 360 barrels a day, has declined to 165 barrels. Washington county holds the lead in completed work, but the wells, as a rule, are of a small stripper type. The large gas concerns have become active operations in central Ohio fields after a quiet period of several months. As a result of the large amount of advance work in Kentucky fields, more than the usual number of dry holes have marked recent operations, but as several good prospects have been opened, the efforts to extend the producing territory of the State have undergone no setback. In Knox county, in south-eastern Kentucky, a well was abandoned at 2,500 feet, the deepest test yet made in that direction. Interesting developments have marked in the western part of the State. In Ohio, Allen and Logan counties a widespread search is being prosecuted for new territory. Hartford, Ohio county, holds the greatest promise in operations, one well there showing a yield of seventy-five barrels.

Our mid-continent correspondence notes a veritable oil boom throughout the pools of Kansas. Encouraging strikes have been reported in several of the districts. Large tracts are being bleached in Montgomery and Chatauqua counties. In Oklahoma leasing is also continued on an active scale.

An interesting development in the California fields during the week is the reported strike of an entirely new sand of Kern county, about eight miles north-west of the Belbridge pool and the same distance south-west of the Lost Hills district. What is described as the

largest well ever drilled in the coalinga field, with one exception, was brought in during the week: its capacity was placed at about 8,000 barrels a day of high gravity oil. While the well is not located in new territory it seems to indicate that a gusher sand exists in that section of the field.

Refined Products.

The local illuminating oil market has continued along practically rentive lines, with no appreciable change in the ruling conditions. Domestic trading is under the slackening influence of the season, but the outlet into foreign channels tends to balance the account. Advance official statistics record the country's exports of illuminating oil for May as 90,107,918 gallons, as compared with 79,601,509 gallons for April and 109,182,461 gallons for May, 1912.

After a steady appreciation for more than two years the export market for the naphthas was subjected to its first setback on Thursday, a decline of one-half cent. in all descriptions being announced, covering all styles of containers except ten-gallon drums. This exception is believed to have been based on the relatively higher cost of the container. The announcement of the decline was the occasion of more or less surprise in the trade and the leading refiners were loth to justify it. There was talk of a less active outlet into foreign channels, and this condition is borne out by the latest official export figures so far as the local port is concerned.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. June 21.	1913. June 21.
Pennsylvania	\$1.60	\$2.50
North Lima	1.02	1.39
South Lima	0.97	1.34
Indiana	0.97	1.34
Illinois, above 30 degrees	0.85	1.30
Kansas and Oklahoma	0.68	0.88
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex.	0.75	0.90
CANADIAN OIL	1.42	1.79

REFINED—FOR EXPORT.

In cents.	Week ended June 21. S.W. 110 test.	W.W. 150 test.
Bulk, New York ... per gal.	5'00	6'00
Barrels, New York, cargo	8'70	9'70
Barrels, Philadelphia	8'70	9'70
Cases, New York	11'00	12'00
Cases, Philadelphia	11'00	12'00

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000	\$11.15
1,000 to 3,000	11.25

REFINED—JOBGING LOTS.

In barrels, pkgs. included.	
130 fire test, S.W.	12
150 fire test, W.W.	12½
From tank wagons	9

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29½

TOTAL EXPORTS.

	Current week. Gallons.	Since Jan. 1, 1913. Gallons.	Since Jan. 1, 1912. Gallons.
Crude	—	74,431,639	65,059,270
Refined	14,637,460	382,829,677	414,514,355
Naphtha	1,667,960	59,400,660	64,310,670
Gas oil	1,414,295	21,239,095	27,398,495
Fuel oil... ..	2,733,650	40,933,660	28,196,225

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SEE ADVERTISEMENT ON BACK COVER.

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

July 4th, 1913.

The market prices of Refined Petroleum are unaltered as follows:—Russian, 8 $\frac{3}{4}$ d.; American, 8 $\frac{1}{2}$ d.; American Water White, 9 $\frac{1}{2}$ d.; Roumanian, 8d.; Galician, 8 $\frac{1}{4}$ d.

LUBRICATING OILS.

There are no changes to report, prices remaining for:—

No. 1 Russian, spot and forward, £12. 2s. 6d.

American pale, from £10. 7s. 6d.

American dark, from £12. 2s. 6d.

American filtered cylinder, from £14. 12s. 6d.

FUEL OIL.

The price quoted is 77s. 6d. per ton, naked, in bulk, ex wharf, and grease-making oil, 85s. same conditions.

MOTOR SPIRIT.

The best quality is quoted at 1s. 9d. per gallon, retail, in London, and the second quality 1s. 7d. per gallon.

TURPENTINE.

American Turpentine is quoted for spot, 28s.; July/August, 28s.; September/December, 28s. 6d.

LIVERPOOL.

July 4th.

Petroleum oils have a good sale, and former currencies are asked for Refined, 8 $\frac{3}{4}$ d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, June 10th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	4	12	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	4	8	2 ..
Monkey Brand, 125 deg., American	...	4	6	2 ..
Tiger Brand in tins, 125 deg., American	...	4	8	2 ..
White Camelia Brand in tins, 125 deg.	...	4	0	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	0	0 ..
Elephant Brand, 125 deg. (bulk without tins)	...	3	6	0 per 8 l. gal.
Camel Brand, 125 deg.	...	4	0	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	6 0
Rising Sun Brand, New Tins, per pair	...	4	0 0
Bull Brand, Bulk, Loose, per unit	...	3	2 0
Bull Brand, New Tins, per pair	...	3	12 0
Swan Brand, Bulk, Loose, per unit	...	3	1 0
Swan Brand, New Tins, per pair	...	3	11 0
Anchor Tins, per pair	...	4	2 0
Shell 150 deg. cases, per case	...	5	4 0
Anchor cases, per case	...	4	8 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Ex-Godown Prices—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	...	5	8 0
" Firefly, per case of two tins	...	4	10 0
" Chukker, per two tins	...	4	0 0
" " per 8 gallons	...	3	6 0
" Victoria, per two tins	...	3	11 0
" " per 8 gallons	...	3	1 0
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, July 3rd.

Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, July 3rd.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, July 3rd.

The petroleum prices have remained firm. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA. BAKU, July 3rd.

The petroleum market has remained firm. Crude oil is quoted at 40–40 $\frac{1}{4}$ copecks per pood spot. Mazout, 38 $\frac{1}{4}$ –38 $\frac{1}{2}$ copecks. Kerosene, 47–47 $\frac{1}{2}$ copecks.

ROUMANIA. July 3rd.

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Francs.
Bushtenari	7.80–7.85
Moreni	6.50–7.30
Tzintea	4.25–4.75
Policiori	4.50
Bana	0.850 8.50
Paraffin	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	29.00–31.00
" sp. gr. 0.715–0.720, f.o.b.	...	25.00–27.00
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–20.00
" sp. gr. 0.740–0.755, f.o.b.	...	16.00–18.00
Residuals, f.o.b. Constanza	...	5.75
Gas Oil	...	8.00

AUSTRIA. July 3rd.

Crude oil is quoted 9.20 kronen spot. Kerosene, 33 kronen at Oderberg. Benzine, 710/720, 45 kronen; benzine, 740/50, 34 kronen; 770/80, 22 kronen at Oderberg. Gas oil, 8.50 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, London, E.C., report under date July 3rd as under:—

The market continues very quiet with prices unchanged at last week's rates, viz.:—

1c	18 $\frac{3}{4}$ × 14	124 sheets 110 lbs.	14/0 per box.
1c	20 × 10	225 " 156 "	19/10 $\frac{1}{2}$ "

F.o.b. Wales. Tin lining and iron hooping extra.

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IMPORTS OF PETROLEUM PRODUCTS INTO THE UNITED KINGDOM.

Specially prepared for this Journal by the Customs House.

FOR THE WEEK ENDED JUNE 30TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP-TION.	NO. OF GALS.	PORT WHENCE.
June. LONDON—				
24	Port Authority	Lub.	3,120	Hamburg
24	"	"	130	"
24	W. R. Batten	"	3,750	Fiume
24	Scott's Wharf	"	2,500	New York
24	Vacuum Oil Co.	"	13,800	"
24	Mordaunt Bros.	"	4,200	"
24	J. W. Cook & Co.	"	2,760	Philadel.
24	Anglo-American Oil Co.	Gas	967,720	Sabine
25	Bowring Petroleum Co.	Lub.	2,760	Philadel.
25	W. Rogers	"	2,420	"
25	Snowdon, Sons & Co.	"	9,330	"
25	Valvoline Oil Co.	"	4,800	New York
25	W. Airey & Co.	"	40	"
25	Anglo-American Oil Co.	"	10,000	"
25	J. Thompson	"	490	Riga
25	E. G. Boize	Lub. Gr.	500	Hamburg
25	"	Lub.	80	"
25	Hanseatic Maritime Agency	"	330	Bremen
26	Port Authority	"	360	Hamburg
26	Page, Son & East	"	400	Antwerp
26	Squire & Calvan	"	4,000	Fiume
26	Mercantile Lighterage Co.	"	23,800	New York
26	G. & H. Green	"	3,200	"
26	Langley, Smith & Co.	"	5,400	Philadel.
27	Worthington & Boler	"	4,400	"
27	Vacuum Oil Co.	"	6,930	"
27	H. J. Ellis	"	2,520	"
27	Lubricating & Fuel Oils Co.	"	52,690	"
27	"	"	2,750	Baltimore
27	"	"	910,670	Batoum
27	E. G. Boize	Lub. Gr.	500	Hamburg
28	Port Authority	Lub.	1,680	"
30	W. B. Dick & Co.	"	4,250	"
30	J. Spurling	Lub. Gr.	280	New York
30	Scott's Wharf	Lub.	2,500	"
30	F. Chiesman & Co.	"	6,000	"
30	Mercantile Lighterage Co.	"	41,120	Philadel.
30	Anglo-American Oil Co.	"	17,640	"
30	Schliemann Oil, etc., Co.	Lub. Oil and Gr.	5,200	"
30	P. Brancher	Lub. Gr.	80	Antwerp
LIVERPOOL—				
24	Vacuum Oil Co.	Lub. Oil and Gr.	2,540	New York
24	Anglo-American Oil Co.	M. Colza	12,000	"
25	Vacuum Oil Co.	Lub. Oil and Gr.	17,360	"
25	W. B. Dick & Co.	Lub.	1,700	Antwerp
25	Rowand & Co.	"	50	"
25	Meade-King, Robinson & Co.	"	320,950	Hamburg
26	Sutton & Co.	M. Colza	300	Nantes
26	Pickford's	Lub. Oil and Paste	620	Hamburg
27	Vacuum Oil Co.	Lub.	3,960	"
27	"	"	1,430	New York
27	W. Johnston & Co.	"	2,600	Baltimore
27	A. Hopps & Sons	M. Colza	2,600	"
27	"	Lub.	10,540	"
27	Crew, Levick & Co.	"	29,780	"
27	Meade-King, Robinson & Co.	Lub. Gr.	5,200	"
28	J. Light & Sons	Lub.	5,440	"
28	Bowring Petroleum Co.	"	4,300	"
30	C. C. Wakefield & Co.	"	2,750	"

DATE.	PORT AND IMPORTERS.	DESCRIP-TION.	NO. OF GALS.	PORT WHENCE.
LIVERPOOL—				
30	C. W. Field	Lub.	250	Antwerp
30	W. Crawford	Lub. Gr.	440	New York
30	Anglo-American Oil Co.	Lub.	58,560	"
BRISTOL—				
24	Ford & Canning	"	2,600	"
25	Pickford's	"	240	Antwerp
25	Asiatic Petroleum Co.	Benzine	925,000	Rangoon
26	British Petroleum Co.	Lamp	711,000	Port Arthur
28	H. Pritchard & Co.	Lub.	130	Hamburg
CARDIFF—				
24	Bristol Steam Navig. Co.	"	200	Antwerp
26	P. Benasconi & Co.	"	2,080	Bordeaux
June. GRIMSBY—				
21	J. Sutcliffe & Son	"	510	Hamburg
23	"	"	100	Antwerp
27	"	"	200	Hamburg
HARWICH—				
24	Great Eastern Railway	"	400	Antwerp
25	"	"	160	"
HULL—				
18	T. Wilson, Sons & Co.	"	33,800	New York
23	Wilson's & N. E. Railway	"	240	Hamburg
26	"	"	440	"
26	"	"	4,560	Antwerp
27	Meade-King, Robinson & Co.	Spirit	30,000	Rotterdam
MANCHESTER—				
29/5	Meade-King, Robinson & Co.	Lub.	4,510	Hamburg
24	C. H. Morton & Sons	"	5,280	Philadel.
24	D. Currie & Co.	"	150	Hamburg
26	G. B. Taylor	"	39,640	Philadel.
28	British Petroleum Co.	Lamp	1,770,000	Kustendje
28	J. T. Fletcher & Co.	Lub. Gr.	80	Antwerp
30	"	Lub.	120	Ghent
30	D. Currie & Co.	Lub. Gr.	2,700	Hamburg
30	Liverpool Storage Co.	Lub.	1,000	Philadel.
30	"	"	1,130	New York
30	Bramwell, Fern & Co.	"	3,660	"
30	W. Hodgson & Co.	Lub. Gr.	510	"
NEWCASTLE—				
24	P. H. Matthiessen & Co.	Lub.	620	Bergen
24	"	"	220	"
25	Tyne-Tees Steamship Co.	"	290	Hamburg
25	"	"	320	Antwerp
SWANSEA—				
24	R. Turpin	"	6,560	New York
27	Bristol Steam Navig. Co.	Lub. Gr.	240	Antwerp
DUNDEE—				
27	D. Alexander & Sons	Lub. Oil and Gr.	160	Hamburg
GLASGOW—				
24	Anchor Line	Lub.	400	New York
25	Clyde Shipping Co.	Lub. Gr.	1,160	Antwerp
LEITH—				
23	G. Gibson & Co.	Lub.	240	"
26	Jas. Currie & Co.	"	1,600	Hamburg
CORK—				
24	P. Murphy & Co.	"	80	"
DUBLIN—				
26	P. Murphy & Co.	"	370	"
LIMERICK—				
23	Limerick Steamship Co.	Lamp	711,000	Port Arthur
			6,870,070	

The Petroleum Review Directory.

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BOILERS.

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BORING TOOLS.

Deep Well Tool and Boring Co., Ltd., St. Albans.
Galizische Karpathen Petroleum Actiengesellschaft,
Glinik Maryampolski, Galicia, Austria.
Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.
Oil Well Supply Co. (Pittsburgh), Dashwood House,
London, E.C.
Thom, John M., Patricroft, near Manchester.
Frauzl & Co., Vienna.

BUILDINGS.

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WIRE ROPES.

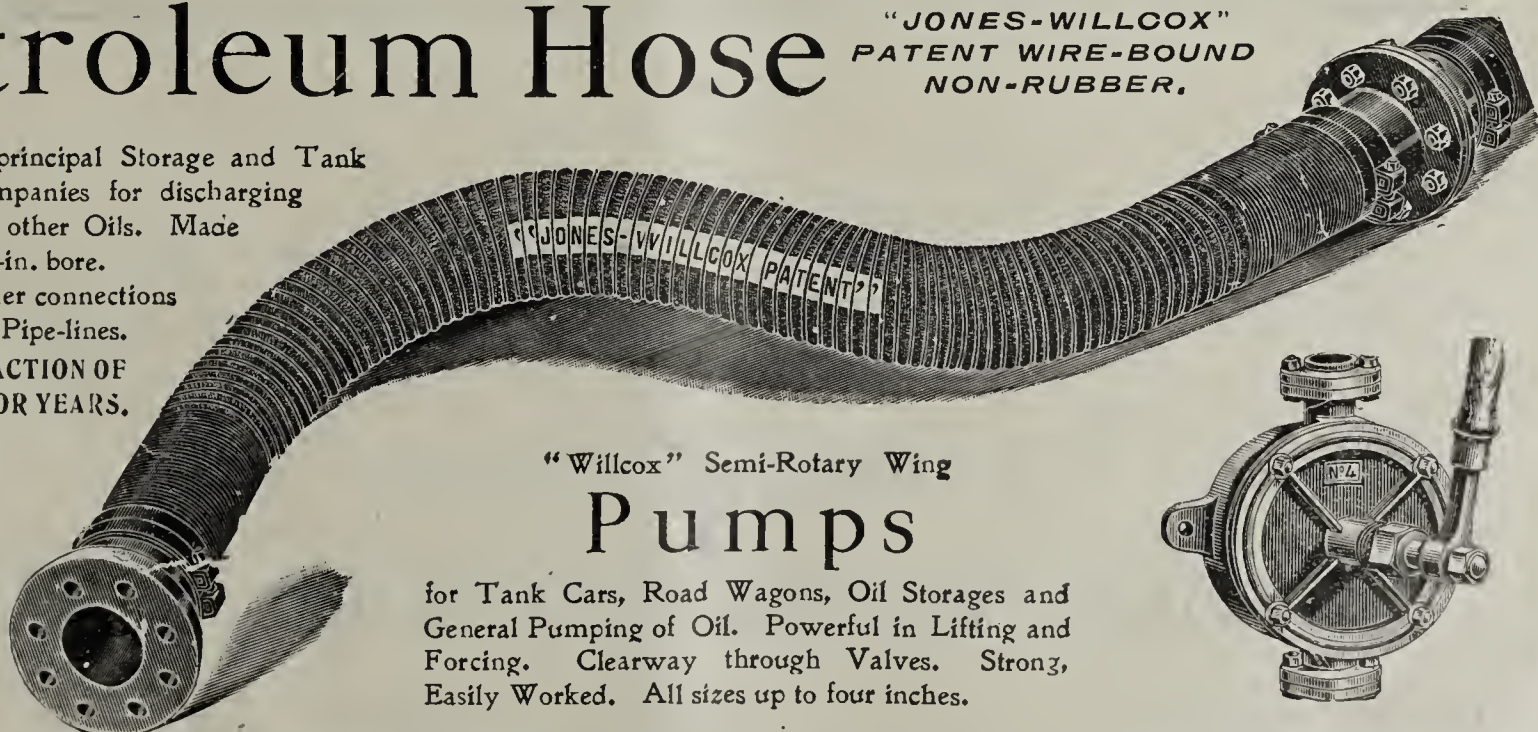
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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

America's Export Trade in May.

THE volume of America's petroleum export trade during May was far below the usual average, owing to the difficulty of securing sufficient tankage to meet foreign requirements. It is generally admitted, however,

that when the present dearth of ocean transport is remedied the demand for American petroleum products in the world's markets will be greater than ever. For the present the exports are limited, and it is no surprise to find that when the volume of the foreign trade for May is compared with that for the corresponding period of last year considerable decreases are recorded in almost every class of petroleum exported. The greatest deficit, as will be seen from the table in another column, is in regard to illuminating oil exports, which for the month have dropped over 10,000,000 gallons. Motor spirits also show a decline of nearly 6,000,000 gallons, while lubricating oils have decreased by a similar quantity. The exports of crude oils, however, show great advance—the primary cause of which is the general favour with which liquid fuel is now regarded for power purposes both on sea and land.

Far Eastern Spirit for California.

THOUGH at first sight the importing of motor spirit to the Californian markets from the Far East is suggestive of the idea of carrying coals to Newcastle, on closer examination it is easy to see the vast openings

which immediately present themselves on the Pacific Coast for the establishment of an important trade with foreign refined oils. For years past the Californian petroleum industry has more or less been a heavy oil proposition, which has awaited its chief factor for expansion in the growing demand for liquid fuel. But of late it has been found commercially possible to build up a refined oil trade of no small dimensions by the

utilisation of some of the lighter oils found in several fields, while later still the energy which is being displayed in the manufacture of gasoline or motor spirit from oil-well gases is well known. But the Californian State is a very large consumer of motor spirit, for the automobile has nowhere been more welcomed, and it was no doubt this fact which was mainly instrumental in the adoption of the policy now being carried out by the Shell-Royal Dutch interests, whose advent in California is the one leading topic of conversation amongst those well acquainted with the oil trade. These interests have been very busy for nearly two years in maturing plans for an extensive trade in California, and during the past few weeks the first motor-spirit cargo from the Far East arrived at San Francisco, though this shipment has been recently preceded at Puget Sound, in which district the Shell-Royal Dutch concern has confined its operations until the present time.

A War of Prices Possible.

WHAT the result of this important new factor in the Californian oil situation will be, it is, of course, not possible with accuracy to guess, but it is very possible that the first outcome will be a war of prices, waged

on the one hand by the old distributors and on the other by the Shell interests. The gasoline market, for instance, has undergone great changes since the plans now approaching completion were first decided upon. The local supply of motor spirit was then a negligible quantity, but now it is assuming quite substantial proportions as a result of the general adoption of compression plants for the extraction of gasoline from natural gas. The old-established concerns, like the Standard and the Union, will not readily sit down contentedly while a bold attempt is being made to foist trade from them, and therefore it seems as more than likely that a war of prices is inevitable. The Shell interests have already established distributing stations at advantageous points in the State, and in order to keep these in full operation a continuous import of Far Eastern refined oils is necessary. The situation in California therefore becomes at once full of interest.

Roumania's Growing Export Trade.

WE have frequently commented upon the fact that the petroleum export trade of Roumania is growing in importance by leaps and bounds. Last year, it will be remembered, the total exports reached a new record, but it is

safe to say that this will be quite eclipsed when the end of this year is reached. Indeed the total figures for the five months' trade show that during that period the unprecedented total of over 460,000 tons was

exported, which gives an average of considerably over 90,000 tons per month; but during late months this amount has been far exceeded, for in May alone the petroleum exports were over 110,000 tons. The remarkable activity which is now being displayed in the building-up of an important international trade in Roumanian petroleum products is seen from the fact that when the exports for the five months of this year are compared with those for the corresponding period of 1912 the increase shown is over 66 per cent. Should the present activity continue until the end of the year—and it is fairly evident already that it will not only continue but become the more marked—the exports for the year will exceed one million tons.

ANOTHER OILFIELD IN THE URALS.

THE current topic of conversation at Gurieff is relative to the discovery of an exceedingly rich stratum containing enormous quantities of petroleum, and laying at a depth of 70 ft. in one of the Novobogatinsk State properties of the Ural Province. The oil is of such abundance that it can be quickly drawn from the source in pails. New zaiavkis are being entered in hundreds. The whole steppe, until lately a total desert, is now invaded by engineers and experts, who are carefully surveying and erecting claim signs. It is quite evident that the staff of administration of the State properties is quite inadequate to cope with

ANOTHER OIL BOAT FOR THE ADMIRALTY.

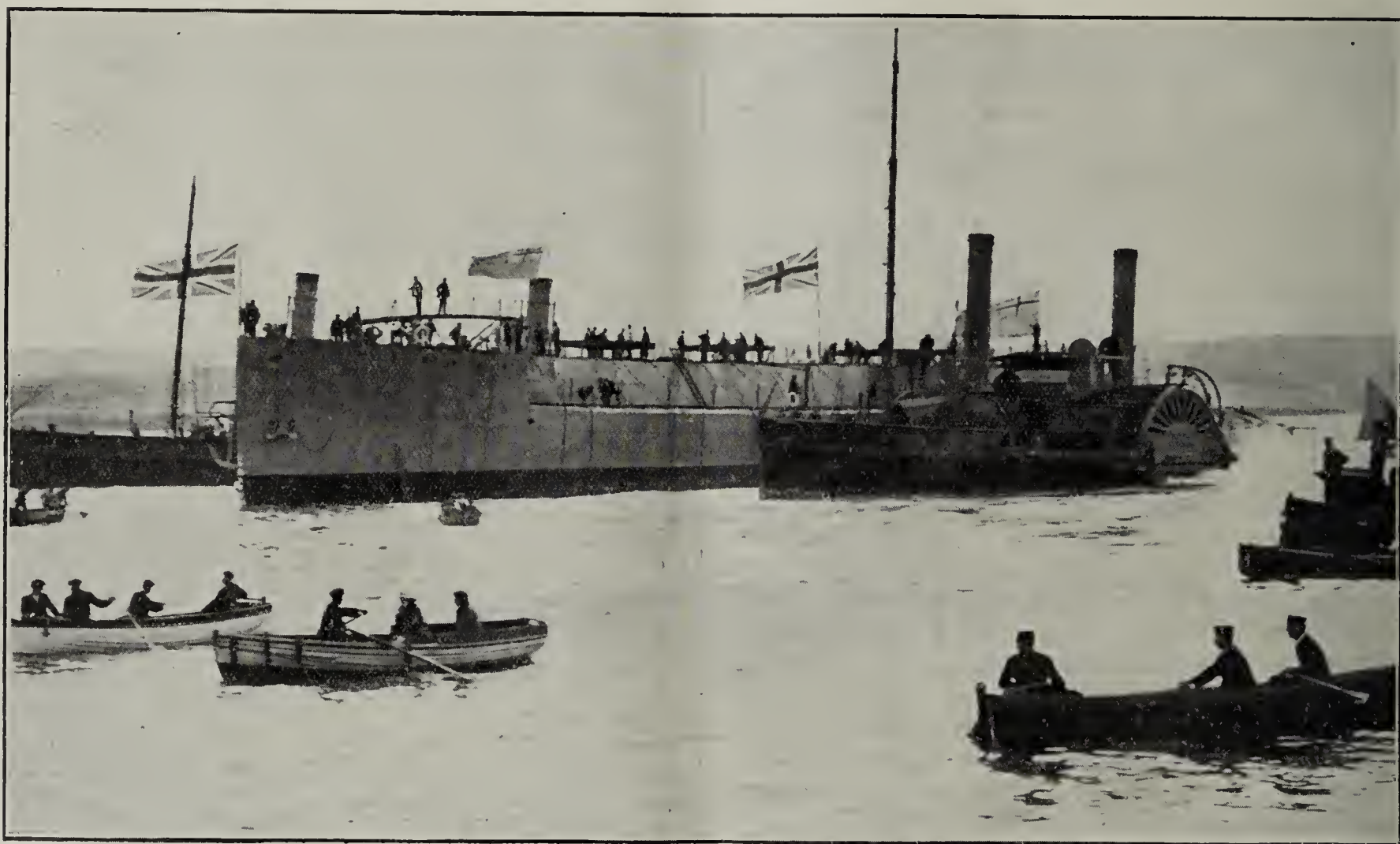


Photo by]

[Topical Press.

The "Carol"—one of the first auxiliary vessels to supply Dreadnoughts with their cargoes of liquid fuel was launched on Saturday last from the Devonport dockyards. In the above illustration the "Carol" is seen immediately after the launching ceremony.

CHELEKEN OILFIELDS, LTD.

WE have just received a copy of the report of the above Company for the past year, which will be submitted to the shareholders, at Salisbury House, next Thursday, at noon. This shows the Company to be in a highly satisfactory state. The production of crude oil on its properties last year was 4,537,000 poods as compared with an output of 2,012,000 poods for the preceding year. During the first half of the present year the crude oil production shows another substantial increase, while owing to prices being higher, profits show considerable improvement. An interim dividend of 10 per cent. has been declared, and is payable next month. Negotiations are now proceeding for the acquisition of further oil lands.

the verification of the whole of the zaiavkis, and that it will take years before all demands will be satisfied. Boring has also been commenced north of Makat at Tchingildi, where there are plenty of outbreaks of rich oil.

THE "PARKER" ROTARY MACHINE.

WE understand that the sales of the well-known "Parker" rotary drilling machine in this country, as well as in several European countries, will in future be handled direct by the manufacturers—the J. F. Lucey Company, from their London offices, 1-5, Broad Street House, London, E.C.

THE MANUFACTURE OF PETROLEUM PRODUCTS.

By Dr. F. C. ROBINSON, Chief Chemist of the Atlantic Refining Company.

(Concluded from page 10.)

SUCH a still is nearly filled with, e.g., Mid-Continent crude oil, and fires are lighted. When the temperature of the oil in the still has reached 175° to 200° F., some gases, consisting largely of butane and pentane, are given off, and presently the highest naphtha starts to distil over. The firing is continued; the temperature in the still becomes gradually higher; the distillate becomes gradually heavier until the temperature in the still reaches about 325° F., at which point about 6 or 8 per cent. of crude naphtha (200° F. boiling-point) has distilled over. This is set aside as crude naphtha. The distillation is continued until the temperature in the still has reached about 475° F. for crude heavy naphtha, and represents 13 to 15 per cent. of the crude, and has an average boiling-point of about 300° F. The distillation is then continued until the temperature in the still has reached about 625° F. for natural lamp distillate, which represents about 16 to 18 per cent., and has an average boiling-point of about 450° F. When the still has reached this temperature, cracking or destructive distillation sets in. The fires are slackened in order to distil very slowly, and this slow distillation is continued until the temperature in the still reaches 675° to 700° F., producing a distillate with an average boiling-point of about 550° F., but containing some gasoline, some lamp oil, and much heavier oil which I have designated as gas and fuel oil stock. The yield of this oil is about 20 per cent. You will notice that this cracking distillation is very different from an ordinary fractional distillation; heavy molecules have been broken down into lighter ones by submitting them to temperatures at which they are unstable. There yet remains in the still a heavy black tar representing about 42 per cent. of the crude oil. This is the source of paraffin wax, and the line of lubricating oils called paraffin oils. It is no longer desirable to carry on a cracking distillation, because this would result in the destruction of the valuable products desired. The distillation is continued in such a way as to avoid cracking, as much as possible (is distilled fast), either in the same still, or more commonly in separate smaller stills called tar-stills. This tar-still distillation is carried on very rapidly, in order to produce the maximum yield of paraffin distillate (about 22 per cent.). In addition to the paraffin distillate, there is also produced, by destructive distillation, about 15 per cent. of cracked distillate. At the end of the distillation the stream becomes so heavy that it will sink in water, and is then known as wax-tailings, which amounts to about 1 per cent. of the crude oil. When the distillation stops, there remains in the still nothing but coke, amounting to about 4 per cent. of the crude oil.

Now, taking up the various fractions—first the crude naphtha. This is again distilled—first in order to separate it into the various gasolines and naphthas that

compose it, and secondly to separate it from the small amount of bottoms, or light lamp oil, that it contains. This is done in a still which is heated by steam—usually by injecting live steam directly into the gasoline. When the distillation starts, some gas is given off; then the lightest distillate appears at the trap—usually about 90° Be. gravity. The distillate gradually gets heavier until all the gasoline has distilled off. The receiver is then changed, and the naphtha distillate is separated. At this point about 90 per cent. has distilled off, leaving a bottom about 10 per cent. This bottom is essentially lamp oil, and is used as such. The heavy crude naphtha is handled in the same manner, except that it contains little or no gasoline, and contains about 50 per cent. of bottoms, or lamp oil. The cracked distillate is also distilled with steam to remove about 4 per cent. of crude naphtha.

Up to this point all the operations have been different types of distillation. The next step in handling the naphtha distillate from both sources, the lamp oil distillate, and the crude naphtha from cracked distillate and the test-cracked distillate, is the acid treatment. All the fractions contain a certain percentage of material attackable by sulphuric acid, so that this reagent affords a convenient means for removing colour and odour from the remainder of the hydrocarbon distillate. In practice, the naphtha distillates are agitated with about 5 per cent. by volume, the lamp oil distillates with about 1.5 per cent. of sulphuric acid, oil of vitriol, for about a half-hour. The colour and odour-bearing compounds combine with the acid, producing a heavy black viscous mass called acid sludge, which settles to the bottom of the vessel. The sludge is drawn off, and the oil washed with water and alkali to remove all traces of acid, and is then ready for the market. The sludge from all acid treatments is separated into unstable products. This is accomplished by boiling it with water, which results in the dilution of the acid, and renders it incapable of holding in solution the impurities. The weak acid (30° to 50° Be.) settles to the bottom, is drawn off, and reconcentrated. The upper layer, consisting of the impurities, is known as acid-oil. This acid-oil is separated by fractional distillation into a light distillate, which consists of all the evil odours that the original distillate contained, and a residue consisting of the asphaltic compounds that were removed by the acid.

The next general subject is the handling of the paraffin distillate, which is the direct source of the paraffin wax, and all of the paraffin oils. The first step is the process of cold pressing. The distillate is first cooled to 20° to 30° F. by pumping through pipes surrounded by cold brine, thereby causing the paraffin wax (amounting to about 10 per cent. of the distillate) to solidify. This solid 10 per cent., mixed with the 90 per cent. liquid oil, forms a soft mush, which is

pumped through a filter-press. That which stays in the press is called the slack wax, and amounts to about 20 per cent. of the paraffin distillate. The 80 per cent. that goes through is called pressed distillate. The slack wax, consisting of about equal parts of oil and wax, is then put through a process peculiar to the oil business, known as the sweating process. It consists of cooling the mixture until it has become a solid cake, and then very gradually warming it. The crystals of the paraffin form a network through which the oil is distributed, and, when the mass is warmed, the oil sweats out and drips away. It always carries with it some wax in solution; but the final result is that the oil all sweats out, leaving the paraffin wax in a fairly pure state.

This sweating process separates the slack wax into crude paraffin wax and what is known as Foot's oil. The latter still contains much paraffin, which is removed by putting it again through either the cold pressing or sweating process.

The crude paraffin wax is then put through another process that is peculiar to the oil business, that of clay or bone-black percolation, for the purpose of removing asphaltic colouring matter, and thereby changing the crude paraffin to refined colourless paraffin. The clay used for this purpose has properties similar to those of bone-black, *i.e.*, it absorbs and retains tarry and asphaltic compounds. It is found in Florida and Georgia, where it is mined, roasted, broken up and sifted to separate grains, such as you see here. It is very porous and light, weighing only about two-thirds as much as water. This clay, or fuller's earth, as it is commonly called, is put into large upright cylinders holding 10 or 20 tons, and provided with a finely-perforated bottom. The crude wax is melted and poured on top of the clay. It trickles down through the clay bed, and passes through the perforated bottom. The first drippings from such a filter-bed are absolutely colourless; but, as the filtration progresses, the colour becomes more and more like crude wax. A ton of clay yields 5 or 6 tons of first quality paraffin wax. The amount of asphalt or colouring matter retained by the clay is exceedingly small, and is removed by burning the clay in a cement kiln of the usual type, thus regenerating the clay for subsequent use.

I have explained that the paraffin distillate is the source of paraffin wax and light lubricating oils, and have explained the various steps in the preparation of paraffin. The light lubricating oils are made from the filtrate from the cold presses—the pressed-paraffin distillate—by putting it through the process of fractional distillation, thereby separating it into a distillate of light oils that go to make up the gas and fuel oil stock, and a residue in the still called paraffin oil stock, representing from 15 to 50 per cent. of the charge of the still depending on the quality desired.

This type of distillation is also peculiar to the oil business. The desired product is a heavy oil, so that all cracking must be avoided, in order to produce the maximum yield of this oil. The result is accomplished by using the very important process of distillation with bottom steam or fractional distillation. A still is charged with the pressed-paraffin distillate and fires are lighted. The temperature in the still rises, and when it has reached about 400° F., the distillation begins. Shortly after this the live steam is injected into the oil

in distillation through perforated pipes placed near the bottom of the still. No water accumulates in the still, because the temperature is so high. The steam passes upward through the oil as an inert gas, and passes through the condenser with the oil vapours, and is condensed there with the oil. The effect of this current of steam through the oil is exactly that of a vacuum distillation, *i.e.*, it lowers the boiling-point of the oil in distillation, and allows a heavy oil to be distilled at a temperature below the temperature of destructive distillation. You will notice that cracking sets in at about 630° F. Without the use of steam, the distillation in question would require that the still be heated to about 750° F. This would result in the destruction of the desired oil. With steam it can be carried on with a maximum temperature of 600° F., thus entirely avoiding destructive distillation.

The paraffin oil stock is a dark-coloured, unattractive-looking material, which is transformed into the valuable paraffin oils of commerce by treating with sulphuric acid in the manner already described. The treating loss in this case is from 10 to 30 per cent. The whole cracking process described thus far is designed to produce the maximum yield of gasoline and lamp oil from crudes containing asphalt.

We will now turn to the method of refining the light-coloured non-asphaltic crude oils, from which the valuable cylinder oils may be made. The object in this case is to avoid all destructive distillation, in order to produce the maximum yield of the very heavy lubricating oils. The still is charged with the crude oil, fires are lighted, the crude naphtha is distilled off, as in the other distillations, but when the temperature is well above the boiling-point of water, steam is injected into the oil as before described. Under these conditions, the crude naphtha has distilled off when the temperature in the still has reached about 285° F., while without steam the still temperature was about 375° F. The yield from this kind of crude is about 13 per cent. The heating is continued, more and more steam being injected, the distillate becoming heavier and heavier until the heavy crude naphtha has distilled off. At this point the temperature in the still has reached about 330° F.; without steam at this point the temperature was 475° F. The yield of this oil is about 13 per cent. The distillation is still continued until the natural lamp oil distillate has distilled off. At this point the temperature in the still is only 500° F., while without steam it was 630° F. Now instead of trying to induce cracking by slowing the rate of distillation, the amount of steam is increased, and the distillation is carried on as fast as possible, to avoid cracking. This is continued until the lubricating distillate, amounting to about 28 per cent. of the crude, has distilled over. At this point the temperature in the still has reached about 620° F., and the distillation is stopped, leaving the cylinder oil stock in the still. You will recall that in the cracking process the temperature in the still reached 850° F., and yielded a residue in the still of solid coke. This whole distillation has been conducted in such a manner as to produce the best quality and largest yield of this residual oil—the source of all steam-cylinder oils. The various fractions from the stills are put through exactly the same processes as the corresponding fractions from

the cracking distillation, except the lubricating distillate. The crude naphtha and the crude heavy naphtha are fractionated, and some of the distillates treated with acid. The lamp oil distillate is treated with acid as before described. The lubricating distillate, amounting to about 28 per cent. of the crude, is put through the same process for the removal of wax and gas oil that the paraffin distillate was put through, the only difference being that the resulting lubricating stocks are not usually treated with sulphuric acid, but are brought to the desired colour by percolating through fuller's earth to produce the neutral spindle oils of commerce. The cylinder stock remaining in the still, and amounting to 8 to 13 per cent. of the crude oil, is ready for shipment as unfiltered cylinder oil; or it may be percolated through clay to produce the filtered oils of commerce. In order to show the wonderful effects of fuller's earth on the colour of oils, I have selected a series of samples showing (1) cylinder stock that was pumped into the filter; (2) the first oil that percolated through; (3) a sample when the percolation was half completed; and (4) a sample at the end of the percolation. At this point the clay must be restored.

You will notice that I have described the cracking distillation of a mixed base crude, and the fractional distillation of a paraffin base crude. Now, what would result if the mixed base crude had been put through the process of fractional distillation? The crude naphtha would, of course, distil off, then the crude heavy naphtha, then the natural lamp oil, then a distillate containing wax and lubricating oil corresponding to the lubricating distillate, leaving in the still a residue consisting of a soft pitch, and amounting to about 15 per cent. of the crude oil. The maximum temperature in the still would be about 630° F. This residue has the property of being vulcanised by the action of air at about 500° F., or by sulphur at about 400° to 450° F. This process is carried on in a still, and consists in heating the residue to the desired temperature, and pumping air through the mass for one to two days, depending on the hardness desired. The resulting hard pitch is the petroleum road-binder of commerce.

PATENTS.

Specially contributed by Messrs. EDWARD EVANS & CO., Consulting Engineers, Chartered Patent Agents and Enrolled Patent Attorneys of the United States, of 27, Chancery Lane, London, W.C.

The undermentioned "Applications Published" are all in the stage in which opposition to the grant of patents upon them can be made.

Messrs. EDWARD EVANS & CO. would be pleased to forward a copy of any of the Specifications on request, and on remittance of a P.O. for 1s. to cover cost and postage. They would also be pleased to advise upon the novelty, subject matter, and value of any invention submitted to them by our subscribers.

APPLICATIONS FILED.

Burners for Liquid Fuel.—Harold Edgar Yarrow. No. 13355 of 1913.

Methods of and Apparatus for Purifying Oil.—Robert Bolton Ransford. No. 13441 of 1913.

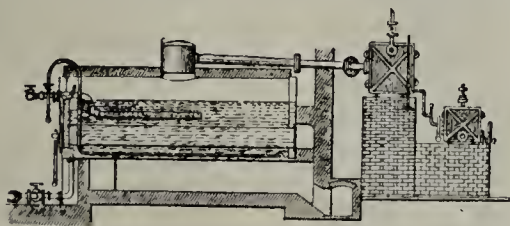
Converting Mineral Oil into Volatile Spirit.—New Oil-Refining Process, Ltd., and James Liddell Rossini. No. 13726 of 1913.

APPLICATIONS PUBLISHED.

Improvements relating to Means for Spraying Liquids such as Oil Fuel Burners.—Robert Grundy Brooke, of Upton Grande, Macclesfield, Cheshire No. 13035 of 1912. This relates to oil fuel burners and consists in the provision of an obturator in the form of a wedge device mounted within the burner, so that it can be advanced and retracted with a straight line motion, and in so doing produce a single steam-issuing orifice having parallel walls, the upper and lower of which can be separated to different extents without affecting such parallelism.

Liquid Fuel Vaporizers for Use with Furnaces, Internal Combustion Prime Movers, and the like.—Tom Dixon Parr, of 52, Langham Road, Teddington, Middlesex. No. 13703 of 1912. This relates to a fuel vaporizer in which an elongated chamber, provided for the vaporizing and passage of the fuel, is surrounded by an outer case through which hot gases pass in an opposite direction, and consists in the provision of practically straight or unobstructed passages, provided both through the vaporizing chamber for the vapor and also between the chamber and the outer case for the passage of the heating medium, means being provided for graduating the effect of the heating gases on the fuel.

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NATURAL GAS IN THE HAMBURG DISTRICT.

Geologists Assert that the Locality Abounds in Petroleum.

THE first gas outbreaks in Neuengamme, in the Hamburg district, occurred in 1910, when the State was deepening their water well 15. The outbreaks occurred from a depth of 247 metres. On the second day the gas acquired a tremendous force, and becoming ignited, totally destroyed the derrick. Two horizontal flames 15 metres long and one vertical flame of nearly the same length, and all formed in the shape of a cross, continued to attract visitors for many weeks, for the flames were visible at a very great distance. The noise of the burning gas was heard $3\frac{1}{2}$ kilometres distant, and from time to time one could have heard continuous detonations under the force of which the whole of the surrounding land was in a permanent state of earthquake. An idea of the tremendous power of the gas is seen from the fact that it overcame the pressure of a column of water 250 metres high, that is to say, it possessed a pressure of over 25 atmospheres.

This gas spouter lasted three weeks without any decrease being noticeable, with the only exception of one of the holes, from which the gas escaped, being stopped by ice formed by the refrigeration caused to the spouting water by the expansion of the gas.

On November 25th the flame was put out by means of steam, and the spouted gas was captured and regulated, then showing a pressure of from 23 to 25 atmospheres, which pressure has been constantly kept up.

The chemical composition of the Neuengamme gas

was ascertained by Professor Gürech, as follows:—

	I.	II.
Methane	91.5	91.6
Heavy hydrocarbons	2.1	0.8
Hydrogene	—	2.3
Carbon dioxide and sulphuretted hydrogene	0.3	0.2
Oxygen	1.5	0.7
Nitrogen	5.6	4.4

Thus practically the Neuengamme gas consists of pure methane.

The strata through which the well was bored belongs to the following groups:—Alluvium 0–10 metres, diluvium 10–91.2 metres, undermiocene 91.2–142 metres, upper oligocene 142–185 metres, middle oligocene 185–245 metres. The recognising of the fossilis was extraordinarily difficult, as they were all destroyed and pulverised in boring. Still, the following were recognised: Nassa Schlotheimi Begr., Tornatello pinguis d'Orb., Leda pygmaea Münt., then Pyramidella sp., Bulla sp., Natica sp., Lucina sp., Axinus sp., Nucula sp., all of which were fixed to the depth 91–96.3 metres.

Of considerable interest, from a scientific as well as a practical view, is the question of the origin of these enormous stores of gas at Neuengamme. As the presence of earth-gas is intimately associated with the existence of petroleum, it would be natural to connect the Neuengamme gas source with some yet unknown deposit of petroleum in the locality. Many facts speak for this supposition. According to the valuable investigations of Monke and Beyschlag, it is known that the North-German oil deposits are connected with the border folds of the salt deposits. Such a salt deposit is known at a distance of 16 kilometres to the south of the Neuengamme gas-well, and it is highly probable that the rich in chlorine water which spouted from the Neuengamme well with the spouting gas is due to this salt-bank.

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PETROLEUM IN MOLDAVIA.

By Mining Engineer A. GEORGIADÉ.

Reprinted from
"The - - -
Monitera du -
Petrol Romani."

FROM the geological point of view Roumania may be divided into the following tectonical districts :—

1. The crystalline-mezozoic blocks formed by folds superposed in sheets of crystalline schists, the formation of which remounts to a period anterior to the upper cretacious, appear in Roumania in the west of the Suceava district and the massive of the Fagarash mountains.

2. The flysch zone which forms the top of the Carpathians, from the depression at Vienna down to the Dambovitza valley, is composed of a system of overlapping sheets belonging to the cretacious and tertiary formation.

3. The sub-Carpathians are formed by neogene formations intensively folded.

4. The hills of the West Roumania or getic depression.

5. The sarmatian upland of Moldavia formed exclusively of sarmatian strata.

6. The Roumanian plain or pericarpatic depression.

7. The Dobrogea, rest of the varise chain formed of metamorphosed paleozotic and triassic strata.

Of all these tectonical zones, the flysch zone and the sub-Carpathian zone alone are petroliferous. In these last zones, the primary petroliferous deposits are located in the upper part of the eocene, in the menelitic schists of the oligocene as well as in the strata of saliferous miocene formation. They are thus the rocks of petroleum.

The secondary deposits are found in all geological formations, beginning from eocene and ending with levantine. Thus, for the existence of a rich petroleum deposit it is necessary to have :—

1. A primary rock able to easily cede the accumulated hydrocarbons.

2. A secondary rock able to accumulate the emigrated hydrocarbons, and to retain these latter once they are accumulated.

3. Dislocations producing migration conditions favourable to an accumulation in the superposed rocks.

As regards dislocations, these can be divided into three groups :—(1) Normal anticlinals, representing but secondary tectonical phenomena ; (2) folds ; (3) a structure of superposed sheets.

The basins of Tazlaul Sarat and of Solontz, in Moldavia, belong to the zone of marginal flysch, formed of three superposed sheets. The development of these latter varies to such a degree that in places they entirely disappear, forming windows opening on the saliferous miocene. This marginal zone extends from this line down to the basin of Trotush, where it is declined by the zone of internal flysch into a sort of sheet of Tarcau clay. Thus, as general lines of dislocations, we have :—(1) The line of overlapping of the first oligocene sheet on the miocene salifere ; (2) the line of the second oligocene-eocene sheet of the marginal flysch, overlapping the first sheet of the same marginal flysch ; (3) the line of overlapping of the third sheet over the second one. All these lines of dislocations follow in general a N.-S. direction, parallel to the chain of the Carpathians, in the following way :—

The line of overlapping of the marginal flysch over the miocene salifere follows the N.-S. direction of the Carpathian chain ; the line of overlapping of the second oligocene-eocene sheet over the first oligocene sheet follows along the west of Tazlaul Sarat, and finally the third line of dislocation follows along the western part of the mountains Strigoiu, Runcu and Tasbuga.

The geological formations represented in this district are : the saliferous miocene forming the autochtone part, the oligocene, and the eocene, forming the sheets and overlapping the miocene salifere, which is here represented by grey, greenish and reddish clayish-marlish schists, as well as by clayish schists mixed with gypsum.

(To be concluded.)

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Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{29}{32}-\frac{31}{32}$
„ 5% Deb. Stock ...	600,000	£100	84-88xd
Assam Oil ...	310,000	£1	$\frac{9}{16}-\frac{11}{16}$
Baku Russian Petroleum Co.	750,000	10/-	3/6-4/0
Bibi-Eibat Oil Co. ...	312,500	10/-	4/0-5/0
Californian Oilfields...	500,000	£1	$4\frac{5}{16}-4\frac{9}{16}$
European Oilfields ...	385,000	10/-	6/0-7/0
Lobitos Oilfields, Ltd. ...	400,000	£1	22/3-23/3
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{5}{8}-\frac{3}{4}$
Pacific Oilfields, Ltd. ...	250,000	£1	2/0-3/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	17/0-18/0
Russian Petroleum Co. ...		10/-	$1/10\frac{1}{2}-2/4\frac{1}{2}$
Schibaieff Petroleum, new Pref. (fully paid) s/s		—	$1\frac{1}{4}-1\frac{3}{8}$
„ „ new Ord. 575,000 s/s		(fully paid)	11/0-12/0
Shell Transport and Trading	2,500,000	£1	$5\frac{1}{16}-5\frac{1}{8}$
„ „ „ 1,200,000 Pref.		£10	$10\frac{1}{2}-10\frac{3}{4}$
Spies Petroleum Co. ...	600,000	10/-	20/6-21/6

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
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Baku Naphtha Co. (Issue of 1908) f.-pd.	100	678	701
Caspian Society (Issue 1910) ...	1,000	3,060	3,080
A. I. Mantascheff & Co. ...	250	650	660
Nobel Bros....	5,000	17,860	17,900
Nobel Bros. (Issue 1912) ...	—	908	912
Russian Naphtha Society ...	100	262	264
Ter-Akopoff Co. ...	250	284	287
Lianosoff & Co. ...	100	261	263
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	386	$387\frac{1}{2}$

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Burmah Oil, Ord. ...	1,100,000	£1	68/6
„ Pref. ...	250,000	£1	24/3
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
„ 5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	5/9
Mexican Eagle Oil, Ltd., Non. Cum. Pref. ...	\$8,500,000	\$10	42/6
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	33/9
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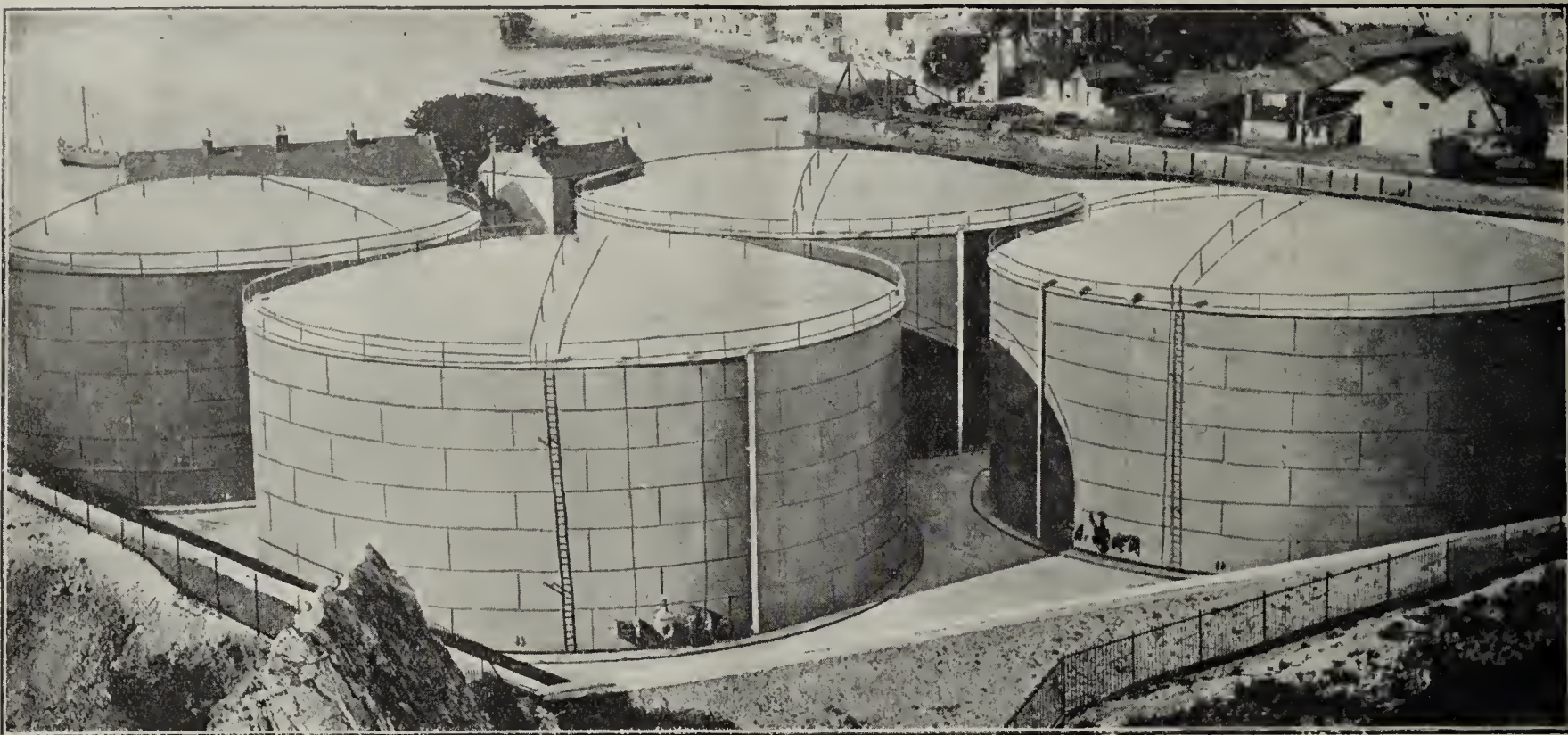
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CHIEF CONTENTS.

	PAGE
Editorial Notes	31
The Manufacture of Petroleum Products	33
Natural Gas in the Hamburg District	36
Petroleum in Moldavia	37
Latest Quotations of Petroleum Shares	40
The Future of Russia's Petroleum Industry	43
Classified Imports	44
Notes from the Oilfields	45
Waste in American Natural Gas Production	47
American Exports for May...	49
Developments in the Oilfields	49
Petroleum Imports into the United Kingdom during June	50
Production of English Companies in Russia	51
The American Oil Market	52
Home and Foreign Market Intelligence	53
Imports of Petroleum Products	54
The REVIEW Shipping List...	55

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SATURDAY, JULY 12TH, 1913.

THE FUTURE OF RUSSIA'S PETROLEUM INDUSTRY.

THE constant decline in the output of crude oil in the Baku oilfields has not unnaturally led many to form a most unfavourable opinion as to the outlook for Russia's petroleum industry in the future; and even the recently issued Consular reports speak in a pessimistic strain of the petroleum industry in the Caucasus. At first sight it certainly would appear that gloomy days are in store for Russia; but those who have given the subject anything approaching close attention cannot but have come to the conclusion that the outlook is not so bad as it has been painted.

In fact, apart from totally disagreeing with the pessimistic opinions which of late have been so freely expressed, we would go as far as to say that in no oil-

producing region in the world have events taken such a favourable turn as in the domains of the Tzar, and we look with every confidence to an unparalleled expansion of the present-day importance of Russia's industry of petroleum production.

Without a doubt the Baku fields, as at present exploited, are showing, and have for years shown, unmistakable signs of a steady exhaustion ; the production last year was below 470,000,000 poods, and if the already published figures for the first five months' operations of this year count for anything it is evident that a still further diminution of output from these old areas is inevitable for the present year, while as time goes on it is also clear that increases of any moment from these territories are out of the question.

It is gratifying, however, to recollect that in scarcely any other region of oil-production in the world do such vast territories of petroliferous wealth await commercial exploitation. Even in Baku alone it is already proved that immense tracts of land, mostly belonging to the State, are highly petroliferous, and if only the Russian Government, who receive to-day more than £10,000,000 per annum from the petroleum industry, would only put forward serious attempts to encourage the search for oil, there is no reason why Baku should not again rise even beyond the level of importance it reached years ago for petroleum production. We must say, however, that the attitude of the Government must be entirely changed if the most is to be made of Baku's yet virgin oil lands, for the present methods of leasing oil territory, as evidenced by the recent Baku auctions, is quite absurd and entirely opposed to commercial principles.

Apart, however, from the Baku fields, Russia has many extensive fields which will amply repay exploitation. The Grosny district, we know, is already recognised as the most important comparatively new area, but the prolific nature of Grosny is but an example of what may be expected of the many other territories, all of which as yet cannot be classed as having entered the commercial stage of production.

First and foremost comes the Maikop district, which, although it has been much abused, has more than justified the hopes held out for it. Had more serious activity been displayed in this region there is every reason to believe the results would have been more

satisfactory, but as it is, the field has shown its capabilities to produce oil in highly remunerative quantities. All that is now required is patience and systematic exploitation, and given this, we are satisfied of the results.

Then we have the Krimskaya region, the fields of Taman and Kertch, the immense petroliferous tracts in northern Sakhalin, the great wealth of the Urals, and the prolific strata in the Isle of Tcheleken, to say nothing of the dozens of districts in which the presence of oil, being theoretically proved, only awaits the carefully directed drill to render operations commercially successful.

We do, however, think the Government should move itself in an endeavour to encourage the rapid development of its new oil lands. It has, hitherto, done more to destroy than build up a basis of solidity for the petroleum industry, and the result is that public confidence in its vast treasures of oil wealth is not so enthusiastic as in the past. The Government alone is to blame ; let it extend a fostering and kindly hand to its petroleum industry, and then the future is full of promise ; for the Russian Empire has all the qualifications for becoming the greatest oil-producing region of the world.

ROUMANIAN PETROLEUM EXPORTS DURING MAY.

THE total quantity of petroleum products exported from Roumania during May amounted to 111,647 tons, as against 56,179 tons exported during the corresponding period of 1912. The quantities of various products exported to various countries were as under :—

		Crude oil.	Benzine.	Kerosene.	Residuals Gas Oil, etc.
		Tons.	Tons.	Tons.	Tons.
England	...	—	—	—	9,387
Austria	...	2,027	889	673	3,680
Germany	...	292	4,177	6,610	638
France	...	199	2,999	5,920	5,031
Egypt	...	—	730	15,915	3,293
Balkan Peninsula	...	15	480	4,710	976
Holland	...	—	4,343	6,195	—
Belgium	...	13	24	—	2,585
Denmark	...	—	—	—	3,282
Italy	...	—	6,948	3,487	16,677
Totals	...	2,546	19,900	43,510	45,549

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO JULY 7th, 1913.

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IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since June 30.	From Jan. 1.	Since June 30.	From Jan. 1.	Since June 30.	From Jan. 1.	Since June 30.	From Jan. 1.	Since June 30.	From Jan. 1.	Since June 30.	From Jan. 1.	Since June 30.	From Jan. 1.	Since June 30.	From Jan. 1.
Belgium ..	—	—	18,490	365,523	—	—	—	—	—	—	—	120	—	4,240	18,490	380,883
Canada ..	—	—	—	4,000	—	23,940	—	—	—	—	—	—	—	—	—	27,940
Dutch Indies ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19,391,490
Germany ..	—	127,740	29,510	1,990,470	—	—	53,820	107,120	—	19,366,990	—	24,500	—	—	—	2,227,730
Holland ..	—	—	—	7,170	—	—	—	—	—	4,123,340	—	—	150	590	83,330	4,131,100
Mexico ..	—	3,412,400	—	—	—	—	—	—	—	734,700	—	7,082,550	—	—	—	11,229,650
Roumania ..	4,550,000	9,623,767	—	—	—	—	—	1,150,000	—	1,103,000	—	7,502,140	—	—	455,000	19,378,907
Russia ..	—	4,305,680	102,780	7,512,370	—	238,770	—	—	—	7,924,590	—	—	—	—	102,780	19,981,410
U.S.A. ..	2,591,050	52,053,456	845,240	26,251,904	9,080	120,880	1,006,050	30,052,040	—	12,393,750	—	1,329,890	8,400	580,035	4,459,820	122,781,955
Other Countries	—	80	4,660	80,090	—	480	—	—	—	4,859,240	—	620	—	1,260	4,660	4,941,770
	3,046,050	69,523,123	1,000,680	36,211,527	9,080	384,070	1,959,870	31,309,160	—	50,505,610	—	15,939,820	8,550	588,525	5,124,230	204,472,835

NOTES FROM THE OILFIELDS.

AMERICAN.

The Mexican Rising.—The latest reports from Mexico are to the effect that owing to the trouble which now prevails throughout the Republic, oilfield operations are greatly suffering, and many of the operators are leaving the oil regions. In numerous quarters, however, the uprising is greatly exaggerated.

America Imports Petroleum Products.—During the ten months of the present fiscal year America has imported crude oil and its products to the value of over \$6,600,000. During the whole of the preceding year the total crude oil imports were less than one-half the total already reached. The great increase is explained by the large amount of Mexican crude oil imported into the States.

The Texas Company.—Though the financial year of the Texas Company does not close until the end of June, estimated figures of profit already appear in several of the American journals. The company has passed through its most profitable year, its gross earnings for the twelve months being upwards of \$14,000,000, while its ratio of operating expenses to its gross earnings was approximately 68 per cent., as compared with 73 per cent. for the preceding year.

Gulf Coastal Shipments.—The oil exports from Texas ports are steadily increasing in volume. During May the Gulf Refining Company shipped 514,000 barrels of various products, and over 100,000 barrels of crude, while the Texas Company shipped over 476,000 barrels of refined products and several thousand barrels of crude. The Magnolia Petroleum Company shipped 310,000 barrels of refined oils and 156,000 barrels of crude, while the Standard Oil Company of Louisiana shipped during the month 453,000 barrels of refined oils and 102,000 barrels of crude.

The Prairie Oil and Gas Company.—It is stated that this company, which has for many months been considerably increasing its stocks of crude oil in the Mid-Continental fields, will soon be in a position to bring about material diminution, and to this end

additional transport facilities to the refineries are being planned. It is said that the company intends to lay another line from the fields to the Standard's refinery at Whiting, Ind., which will take a much larger quantity of crude oil.

ROUMANIAN.

Prices.—The prices of crude oil have been stationary during the last week at the basis of 7.75-7.80 for Bushtenari oil.

Production.—The general production is maintained at the rate of 5,400-5,500 tons a day.

Steaua-Romana.—The production of the Steaua-Romana during the last week averaged 1,170 tons, of which 610 tons were produced at Campina, and 270 tons at Policiori.

Fire Safety Committee.—The committee appointed by the Minister to study the question of safeguarding the fields against fire and explosions has now presented its report, which states that at present open fires are often used too near the wells. Boilers and forges may, without any inconvenience for the exploitation, be placed at greater distances.

Syndicate of Bana-Moreni Producers.—The producers of the Bana-Moreni district have been invited by the Ministry of Trade and Industry to form a syndicate for the special purpose of maintaining order and safety on the fields. The syndicate will have to especially provide measures for (1) hermetical capture of oil and gas in eruptive wells; (2) capture of gas from producing wells; (3) organisation of police.

Saturn Company.—This new company is formed with a capital of 400,000 francs in 2,000 shares of 200 francs each, besides which there are 800 founders' shares, with a right to 10 per cent. of the net profits after a dividend of 5 per cent. on the ordinary shares is paid. The new company has acquired an extensive territory, favourably situated near the station Buzan, where a refinery with all modern installations is being erected.

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MISCELLANEA.

MEXICAN PETROLEUM COMPANY, LTD. (OF DELAWARE.)

MEXICAN PETROLEUM COMPANY (CALIFORNIA.)

HUASTECA PETROLEUM COMPANY.

Combined Profit and Loss Account for Three Months ended March 31st, 1913.

	Barrels.	Amount.
Oil sales (including sales to other departments) ...	2,876,585	\$1,374,618.02
Increase in oil inventories ...	270,593	73,060.11
		\$1,447,678.13
Other income ...		230,556.82
		\$1,678,234.95
<i>Deduct:</i> Operating expenses \$139,596.07		
Accrued to holders of Pipe-line certificates... ..	6,942.14	\$146,538.21
		\$1,531,696.74
<i>Deduct:</i> Interest on First Lien Bonds of Mexican Petroleum Company, Ltd., Delaware	\$71,420.74	
Interest on loans and floating indebtedness ...	1,631.84	69,788.90
Net profit for three months		\$1,461,907.84

The consolidated balance-sheet as of March 31st, 1913, shows current assets of \$5,513,683, as against current liabilities of \$1,868,665. The 6,548,865 barrels of oil which the company has in storage are valued at 27 cents per barrel, whereas the average selling price of oil under this year's contracts is about 52 cents per barrel.

THE PETROLEUM TRADE OF NOVOROSSISK

Statistics for April.

THE following table shows the petroleum imports into and the exports abroad and inland from Novorossisk during April :—

	Imports. Poods.	Exports. Abroad. Poods.	Inland. Poods.
Kerosene ...	154,300	—	187,100
Crude oil ...	147,000	—	—
Residuals ...	—	—	16,500
Benzine ...	679,500	1,103,600	—
Goudron ...	—	—	12,800
Total ...	980,800	1,103,600	216,400

EXPORTS OF PETROLEUM PRODUCTS FROM AUSTRIA.

Details for April.

THE following table shows the exports to various countries :—

To	Kerosene. Tons.	Benzine. Tons.	Lubricating Oil. Tons.	Paraffin. Tons.
England ...	—	—	—	8
Belgium ...	88	592	1,335	—
Germany ...	19,765	4,234	8,570	1,345
Italy ...	805	45	665	711
France ...	982	445	191	88
Switzerland ...	1,430	518	736	13
Other countries	598	439	1,755	488
Totals ...	23,668	5,753	13,252	2,653

The exports of crude oil amounted to 243 tons, those of ozokerite to 490 tons, and of liquid fuel to 93 tons.

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WASTE IN AMERICAN NATURAL GAS PRODUCTION.

*An Important
Government . . .
Paper . . .*

METHODS FOR CONSERVATION OUTLINED.

(Continued from page 721.)

IN drilling for oil in the Buena Vista Hills field, California, one gas well was opened that wasted at least 55,000,000 cubic ft. per day for three months before it was finally got under control. At least 5,000,000,000 cubic ft. of gas, valued at 25 cents per 1,000 cubic ft., or \$1,250,000, was lost from this one well alone.

The commission on the conservation of natural resources appointed in Louisiana found that 15,000,000 to 20,000,000 cubic ft. of gas, or about one-fourth the entire waste in the Caddo field, came from producing oil wells and from abandoned gas and oil wells, and "that in a number of oil wells a small quantity of oil is obtained at the expense of a gas waste many times more valuable."

The custom of wasting gas from oil wells originated in the early days of the oil industry in Pennsylvania, when gas was universally considered a nuisance, and, as Day has stated, "developed a hostility toward natural gas on the part of the oil-well driller, which has increased rather than diminished up to the present time. It is to this hostility that the present waste of natural gas in oil regions is due." Gas was originally considered not only a nuisance but a menace by the oil driller, because at many wells, after the gas was packed off, it caused destructive explosions.

In the State of West Virginia there has been a great deal of waste in the past, owing to the fact that the gas from the Gordon stray sand, which has a rock pressure of 1,100 pounds, escapes, together with the oil obtained from the Gordon sand, 40 to 50 ft. deeper. According to White, 12,000,000 to 15,000,000 cubic ft. of gas daily is sometimes wasted to save 5 to 10 barrels per day of oil. This waste could be prevented, as suggested by White, by setting an extra string of casing in the 10 to 30 ft. of shale that separates the Gordon stray sand from the Gordon sand. The cost of this casing would be only \$1,000 to \$1,500 per well, and it would be possible to save this sum in a few days under ordinary conditions, after a market had been found for the gas. Most of the oil companies, however, have not cared to go to the expense of the extra casing.

In certain of the southern California fields the gas that accompanies the oil is exceedingly rich in gasoline, but up to a short time ago practically all of this gas, with the exception of some used locally for fuel, went to waste. As it has been found that at some wells the value of the recoverable gasoline in the gas is worth as much as 20 per cent. of the oil produced from the same well, it is not extravagant to estimate the loss of gasoline—the most desired constituent of the product—in the wasted gas in California at 10 per cent. of the value of the oil produced in the southern California fields up to 1912, or a clear waste of about \$3,000,000 to \$4,000,000. The value of the wasted gases carrying

minor amounts of gasoline, but useful for fuel purposes, will bring the total loss up to fully 5 per cent. of the value of the total oil produced in the State, or \$8,000,000.

The term "waste" should properly be used to include not only the amount of gas actually dissipated, but also that which after discovery is placed beyond the possibility of recovery. In other words, there is a loss to the community if a well is not properly exhausted of its gas. There are undoubtedly many instances of carelessness and indifference in taking care of the product and of the well after drilling.

A large amount of gas has been placed beyond recovery by wells having been allowed to flow gas at their full capacity, thus causing the pressure to drop rapidly, and allowing adjacent pools of salt water to flood out the gas from that particular part of the sand. This is true in all fields in wet sands, but especially so in Oklahoma.

In this connection the common method of blowing off wells should be mentioned. At many wells the gas is allowed to blow into the air for half an hour every morning in order to free the well of water. This is unnecessary, as siphon arrangements can be made to do this work, assisted, if need be, by pumping.

In California the gas and water sands above the oil sands are usually cased off with the same string of pipe thus allowing the water free ingress into the gas sands' to their resultant ruination. The loss on this account is slight, however, as compared with the loss of the gas escaping from the oil sands themselves.

Although the waste through improper utilisation is diminishing, the fact remains that many millions of cubic feet are wasted daily by being sold at a flat rate, and by being burned in imperfect devices.

In a great many cities it was the custom in the past to sell gas at a flat rate, or at a certain rate per month, instead of selling it by the thousand feet through the use of meters. The majority of cities now supply gas through meters, but there are still some which do not. According to the *Petroleum Gazette* of November, 1909, there were no meters in the town of Humboldt, Kan., and as a result at least half the lights in town were left burning all night. Gas was being sold in Humboldt at the low rate of 20 cents per burner per month. Many such examples might be found by going back ten years, but at present this form of waste has been largely remedied by installing meters.

Another form of waste in utilisation consists in piping the gas back into an oil well in order to force the oil to the surface, the gas generally being allowed to escape when it finally reaches the oil tank.

Another wasteful use is to burn gas under a boiler for generating steam, as greater economy can often be obtained by burning in an internal combustion

engine. There is an excuse for burning the gas for steam generation in drilling wells, as up to date no internal combustion engine has been developed that can compare with the steam engine for drilling purposes.

Whatever the prevailing opinion may be, the fact remains that the natural gas is not inexhaustible; only a comparatively limited amount is stored in certain porous formations, and when this is once exhausted no more is forthcoming in commercial quantities. Hence the history of any gas field records a rapid decline in pressure and volume. The permanence of the yield of the Pennsylvania, West Virginia and Ohio fields has been due to the great number of fields and of sands which could be tapped in turn; but in fields in other regions the sands are fewer in number, and a similar permanence cannot be expected.

The decline in pressure in various fields of the United States has been marked. One of the most rapid declines was in the northern Indiana fields, where the pressure dropped from 400 pounds in 1886 to 50 pounds in 1902. Thus those fields were practically exhausted within fifteen years. McDowell states that three times as much gas was wasted in those fields as was used.

Other quick declines have been in Kansas and Oklahoma. In the latter State the rock pressure of the gas in the Hogshooter field is (1912) dropping off at the rate of a pound a day, according to Harry H. Breene, gas inspector of Oklahoma, and only recently the volume of the Copan field, in the same State, dropped from 300,000,000 ft. per day to 100,000,000 ft. per day in one year, during which time the number of wells was doubled. The producing areas of these fields are, however, rather small. In Louisiana a similar decline is noted.

One case of exceedingly rapid decline in California was that of a well in the Midway field. The 16-in. casing of this well tapped a stray gas sand at a depth of 540 ft.; the flow was 50,000,000 cubic ft. per day for a few days, and then became unimportant. The pressure of the gas was only 20 to 25 lbs. when tapped, and 15 lbs. when shut off, but the size of the hole permitted a large flow.

The writers have no intention of suggesting any plans looking towards the throttling of legitimate gas development or the hoarding of gas for use by future generations; they believe gas should be conserved where this can be done without diminishing its economical use and without doing an injustice to the producer. In other words, the purpose of this report is to suggest measures for preventing the waste and injudicious use of gas, by showing what has been done in the past and what may be done in the future.

In the California, Louisiana and Mexican fields, the plan of cementing around the casing is frequently adopted to safeguard the well. In the Caddo field the method seems not to have been used so extensively. Cement is sometimes used, however, in order to give the casing a firm seat on the cap rock. When the casing has been lowered into the well it is raised a few feet from the bottom, and several barrels of cement are poured or pumped down, after which water is forced down in order to pack the cement behind the casing. The latter is then dropped back on the cap rock, the cement allowed to set, and the well continued in the regular way. The use of cement is an effectual preventive of gas working up outside the casing, even if a

flow of large volume be struck. The method is particularly applicable in the Caddo field, on account of the soft cap rock there. Another use of cement is to assist in packing, the cement being poured on top of the packer outside the inner tube and allowed to set, thus holding the packer firmly in position.

In wells where a flow of more than 30,000,000 or 40,000,000 cubic feet of gas per day is expected, the size of the bit should be reduced just before drilling into the gas-bearing sand. Another precaution in all the gas wells in the Caddo field, and some of the California and Texas fields is to tie casing together with anchor rods and clamps. In a few cases "dead men" have been used as anchors.

The most economical use of the gas which comes from sands associated with the oil sands or from the oil itself is in making natural gasoline. In California, in particular, this use of the gas is growing rapidly. In one case \$500 worth of gasoline is made daily from the gas which comes with the 2,500 barrels of oil from a single well. A movement is now on foot in the Santa Maria field in California to buy all of the gas now going to waste at five cents per 1,000 cubic ft. and convert it into gasoline. Two hundred thousand feet per day, or even less, is sufficient to warrant installing a gasoline plant.

Both gas and oil can be saved when they flow from the same well, as is verified by the fact that this is done by a few progressive operators, who use a gas tap, which separates the oil and gas by the gravity method.

The statement is frequently made that the so-called uncontrollable wells in Louisiana and other States cannot possibly be controlled.

This statement is incorrect, as proved by the fact that one of the greatest wild wells ever known, the Gilbert, was successfully closed by the owners. According to information given the writers by M. B. Carmody, superintendent of the Caddo Gas & Oil Company, the method was as follows: Another gas well, about 150 ft. from the centre of the crater of the wild well was drilled. An earthen reservoir of about 30,000 barrels' capacity was constructed nearby, and was pumped full of clear water from Caddo lake. This water was pumped from the storage reservoir into the new well for a few days; the pumps were then stopped, the well opened, and allowed to blow into the air for a few days. This procedure was to open a passage through the gas-bearing sand between the wild well and the new well, and was repeated continually until the crater of the wild well showed by its action that a connection had been established. The next step was to lower suction pipes into the new well and to pump in, from the reservoir, water containing a large amount of sediment. This water, being about 90 per cent. mud, soon silted up the pores in the sand surrounding the crater of the wild well. As the pressure of the wild well became less the mud and water in the crater sank back to the bottom of the well and filled all open spaces in the sand, thus sealing off the gas.

The chief difficulty in closing this well is said to have been the great heat to which the workmen were exposed, as the gas in the crater was burning most of the time before the well was effectually closed. After the undertaking was finished the crater measured 300 ft. in diameter by 90 ft. deep.

(To be continued.)

AMERICAN EXPORTS FOR MAY.

Official Statistics.

ACCORDING to the official publication of the Washington Bureau of Statistics the exports of petroleum from America from the various ports during May were as under :—

	1912. Gallons.	1913. Gallons.
CRUDE—		
New York	4,344,991	2,916,742
Philadelphia	—	—
Galveston	—	19,510
New Orleans... ..	1,186,362	2,246,402
Sabine	1,666,139	150,000
Arizona	1,405,280	997,300
Puget Sound... ..	3,355,970	5,855,111
San Francisco	110	507
Buffalo Creek	137,500	—
Cuyahoga	550,946	5,686,341
Minnesota	—	—
Totals	12,647,298	17,871,913
Values	\$532,471	\$774,324
NAPHTHAS—		
Baltimore	1,178	—
New York	18,102,228	9,503,471
Philadelphia... ..	432,319	3,850,730
Galveston	—	3,520
New Orleans... ..	60,254	154,364
Sabine	2,232,512	2,046,110
Arizona	2,120	7,774
Puget Sound... ..	43,450	295,575
San Francisco	18,404	63,323
Buffalo Creek	751,100	751,588
Cuyahoga	964,029	679,520
Minnesota	802,028	632,757
Totals	23,409,622	17,988,532
Values	\$2,252,644	\$2,781,678
ILLUMINATING—		
Baltimore	—	16,107
New York	61,141,042	45,468,341
Philadelphia... ..	25,577,524	14,514,815
Galveston	—	165
New Orleans... ..	63,304	10,636,598
Sabine	13,086,804	9,571,525
Arizona	30	404
Puget Sound... ..	22,788	17,917
San Francisco	7,435,750	9,598,087
Buffalo Creek	103,600	18,457
Cuyahoga	1,517,689	520
Minnesota	233,930	264,982
Totals	109,182,461	90,107,918
Values	\$6,916,614	\$6,004,299
LUBRICATING AND PARAFFIN—		
Baltimore	1,531,727	1,098,983
New York	13,130,827	8,794,666
Philadelphia... ..	6,380,492	4,981,376
Galveston	93,821	11,063
New Orleans... ..	132,355	306,264
Sabine	—	38,414
Arizona	230	1,367
Puget Sound	38,595	3,942
San Francisco	63,093	102,972
Buffalo Creek	321,650	312,650
Cuyahoga	110,278	28,871
Minnesota	95,235	129,280
Totals	21,808,303	15,809,848
Values	\$2,667,912	\$2,166,476
RESIDUUM, GAS AND FUEL OILS—		
Baltimore	—	—
New York	5,960,543	1,774,955
Philadelphia... ..	1,381,120	22,500
Galveston	—	—
New Orleans... ..	2,100	2,667,739
Sabine	5,500,776	7,958,931
Puget Sound	—	113,729
San Francisco	9,222,272	12,433,048
Buffalo Creek	—	350,500
Cuyahoga	2,130,830	3,214,861
Minnesota	7,288	110,875
Totals	24,204,929	28,647,138
Values	\$556,956	\$775,971

DEVELOPMENTS IN THE OILFIELDS.

LATEST REPORTS OF ENGLISH COMPANIES

Maikop Midland Oilfields, Ltd.—Well No. 2, depth 1,650 ft., gas very strong. Well No. 5, depth 1,090 ft.

Maikop Pipe-Line and Transport Company, Ltd.—Received for pumping for week ended 5th inst., 49,330 poods (796 tons).

Premier Oil and Pipe-Line Company, Ltd.—Production for June, 19,250 tons. Office note: "One working day less than previous months."

Oklahoma Oil Company, Ltd.—The secretary reports that the sales of oil (after deducting royalties) by the Canadian Oil and Gas Company for June realised \$13,267, the corresponding figure for 1912 being \$13,340. The total sales for the first six months of 1913 amount to \$86,676, against \$59,754 for the same period last year.

Hungarian National Petroleum Company, Ltd.—Well No. 4, depth 934 metres, casing 932 metres, sandy shale, strong gas. Well No. 5, depth 705 metres, casing 701 metres, sandy shale, fresh gas at 700 metres, caving badly. Well No. 6, depth 330 metres, casing 318 metres, sandstone, fishing for sinker bar. Well No. 7, depth 651 metres, casing 644 metres, sandstone, fresh oil show 639 metres.

Kern River Oilfields of California, Ltd.—The management committee of the subsidiary company (St. Helen's Petroleum Company, Ltd.), report, by cable, as follows: "Santa Maria, Well No. 1, depth 1,650 ft., formation brown shale and shell, slight oil show with gas. There was also a small oil show at 1,450 ft. Midway, Well No. 1, depth 2,277 ft., fishing scrape; Well No. 2, depth 2,150 ft., setting 8½-in. casing. Fullerton, Well No. 1: The well sanded up last week is now being cleaned and is producing at the rate of 250 to 300 barrels of oil per day. It is also reported that a well on the Daugherty lease, situated half a mile from the company's Well No. 1 at Santa Maria, has reached a depth of 2,230 ft., and that they had 75 ft. of oil sand, with a good oil show, with gas at 1,870 ft. The area on which the company is drilling adjoins the Daugherty lease."

Russian Petroleum Company, Ltd.—Cable from Baku, dated July 7th: "Wells south-east corner started trial pumping yesterday afternoon. Well No. 40, indications good. Well 84, no water. Well 91, plot 53, indications good, little water. Well 93, group 19, indications good, little water. Well 69, condition satisfactory. Next week will telegraph our views with regard to above wells, which are baling slowly with small jelonkas. Well 79, condition improving, production 1,000 poods per day. Wells 85 and 86, cleaning cork with difficulty. Wells 81, 92, 89 and 67, work progressing satisfactorily. Well 94, fishing for under-reamer. Well 5, Khirdalan, after cementation, successfully adjusting damaged casing, expect to trial pump beginning of next month. Well 6, Khirdalan, started cementation to-day. Well No. 1, Digia, hope to be able to start boring beginning of next month. Other wells no change. Well No. 63, contractor awaiting arrival of new boring master."

PETROLEUM IMPORTS INTO THE UNITED KINGDOM DURING JUNE.

THE SHIPMENTS INTO VARIOUS PORTS.

THE various shipments of petroleum products into the U.K. ports during June are given in the following table. The total imports for the month were 29,089,720 gallons, or 7,850,593 gallons less than in May.

PORT.	Illuminating.	Lubricating.	Residuals.	Gas Oil (Solar).	Benzine.	Fuel Oil.	Other Descriptions.
Aberdeen	—	1,750	—	—	—	—	—
Belfast	—	10,220	—	—	—	—	—
Bristol	2,152,850	527,100	—	—	925,000	202,400	26,920
Cardiff	—	3,810	—	—	—	—	—
Cork	—	80	—	—	—	—	—
Dublin	—	580	—	—	—	—	—
Dundee	—	160	—	—	—	—	—
Glasgow	—	246,130	—	—	—	—	2,600
Gloucester	—	1,800	—	—	—	—	—
Goole	—	500	—	—	—	—	—
Grangemouth	2,000	—	—	—	—	—	—
Granton	—	—	—	—	806,000	—	—
Grimsby	—	2,140	—	—	—	—	—
Harwich	—	3,360	—	—	—	—	—
Hull	—	105,370	—	—	35,000	—	—
Leith	2,180	54,480	—	—	—	—	—
Limerick	711,000	520	—	—	—	—	—
Liverpool	696,760	1,348,840	8,000	803,550	50,000	—	31,470
London	1,606,270	2,913,850	3,840	2,142,220	8,003,740	2,279,730	960
Manchester	1,758,180	246,940	—	—	—	667,910	1,190
Middlesbrough	—	2,680	—	—	—	—	—
Newcastle	—	11,390	—	—	—	—	—
Newport	—	120	—	—	—	—	—
Southampton	—	420	—	—	—	—	—
Sunderland	—	—	—	—	—	678,110	—
Swansea	—	9,500	—	—	—	—	—
Totals	6,929,240	5,491,740	11,840	2,945,770	9,819,740	3,828,150	63,140

Galizische-Karpathen Petroleum Actien Gesellschaft

(Late BERGHEIM & MacGARVEY.)

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“KARPAT” PORTABLE OUTFITS for depths to 1,000 ft.

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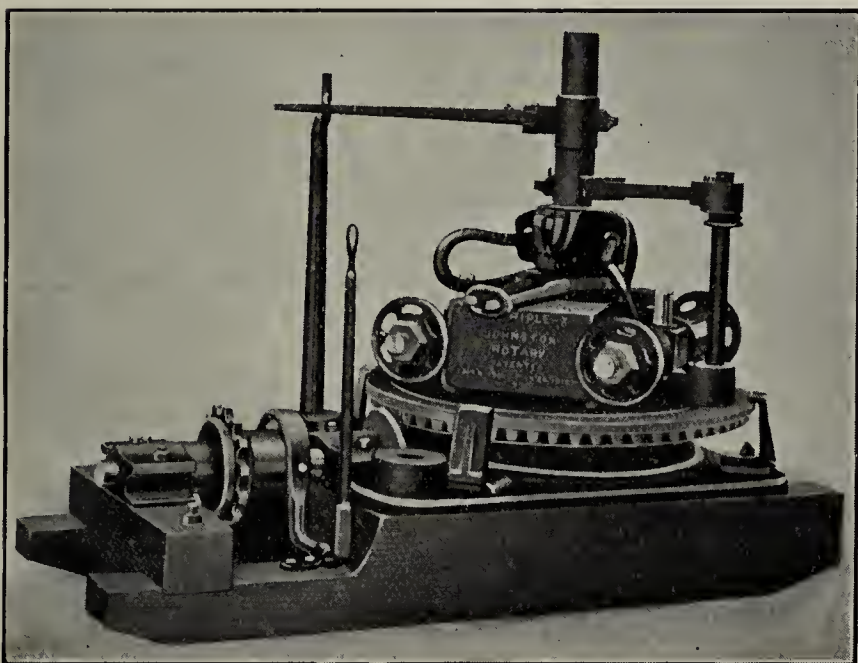
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THE "JOHNSTON" ROTARY DRILLING MACHINE.

It is a well-known fact that during the past few years the systems by which oil wells are drilled—no matter in which country—have been completely revolutionised. The old-time percussion methods have been to a great extent rendered obsolete by the advent of the rotary drilling machine, which, for speed and economy in the hands of capable drillers, is to-day admitted by every practical oil-man to be *par excellence*.

For some time past the claims of the rotary have been very prominently brought before European oil operators by Mr. John Gillespie, of Whittington Avenue, E.C., who has thrown himself heart and soul into the new rapid system of boring, and the success which has met his pioneer work in this direction is seen from the fact that to-day there is scarcely a single European oilfield in which the rotary has not made a name—an enviable name—for itself, while in the more distant fields of Burmah the rotary is a familiar object of attention on the oilfields.

Of these several rotary drilling machines on the market it is generally conceded the "Johnston" is almost synonymous with perfection, it being this machine which has set the standard for other rotaries, and it is



therefore gratifying to find that Mr. John Gillespie has now secured the sole European rights for this popular machine.

The new patent triple-X rotary machine, which we here illustrate, is built in two sizes, designated the 19-inch and 22-inch. These machines—which, as may be known, are manufactured by the American Well Works Co. at Houston, Texas—have gained such popularity in the American fields, where to-day more Johnston rotaries are in use than all other makes, that large stocks are now held at Corsicana, Texas; Bartlesville, and Los Angeles, California.

These machines have been specially designed to meet the great demand for a heavier machine than hitherto built, the latter type having a capacity to turn 5,000 ft. of 4-inch extra heavy drill rod—a fact which shows that the new type of "Johnston" is of the best workmanship.

It may here be mentioned that the gripping device is built entirely of steel, while open-hearth steel pinions are provided, while the patent unscrewing mechanism as applied to pipe tool joints effects a considerable saving both in labour and pipe.

We wish Mr. Gillespie every success with the "Johnston" rotary machine, which has already become very popular in European fields, in spite of the fact that hitherto it has had no practical oil-man to push its qualifications.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended July 5th was 78,000 poods.

SPIES PETROLEUM COMPANY, LTD.—Production, week ended July 6th, including 3,580 poods from ambars, was 247,200 poods, or about 3,987 tons. The total production for the year, from Jan. 14th to July 6th, was 7,218,785 poods, or about 116,432 tons. The total production for the corresponding period last year was 8,366,955 poods, or about 134,951 tons. Price of crude oil at Baku, 40½ copecs per pood.

THE MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended July 5th was 13,835 poods (223 tons).

THE EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended July 6th was 99,600 poods, or 1,606 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended July 5th was 137,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended July 5th was 32,544 poods (525 tons).

THE MAIKOP SPIES COMPANY, LTD.—The production of this company for the week ended July 6th was 10,259 poods, or about 165 tons.

MAIKOP NEW PRODUCERS, LTD.—Production for week ended July 5th was 8,850 poods, or 143 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended July 6th was 17,130 poods, or 276 tons.

THE NORTH CAUCASIAN OIL FIELDS, LTD.—Production for the week ended July 8th was 121,200 poods, or 1,955 tons. Corresponding period last year, 533 tons. Total production to date for this year, 45,878 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended July 6th was 86,900 poods, or 1,402 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended July 5th was 4,850 poods.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended July 5th was 4,960 poods.

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended July 5th was 2,785 poods (45 tons).

CHELEKEN OILFIELDS, LTD.—Estimated production for fortnight ended July 5th, 2,426 tons.

**GERHARD & HEY,
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ESTABLISHED 1856.
Telephone: Wall 5120 (4 lines).

LONDON, E.C.

The American Oil Market.

Saturday, June 28th, 1913.

ANOTHER increase is noted, says the *Oil Paint and Drug Reporter*, in the number of completions in the Eastern fields, Pennsylvania, West Virginia, Ohio, Kentucky, Indiana and Illinois, all showing up well during the week. In actual figures there were 218 completions, against 212 for the previous week. The production amounted to 5,190 barrels, compared with 4,625 barrels for the preceding week. The number of dry holes was the same, 67 being recorded for the past two weeks.

If it were not for the scarcity of drillers in all fields, aside from California, it is believed that a great many more operations would be in progress in the Eastern territory. There is a strong attempt being made to find new and prolific petroleum pools, but nothing has been developed during the past several months, or since the Blue Creek field in Kanawha county, and the Spencer district in Roane county, West Virginia, were opened up. Great hopes were entertained for the new fields in Kentucky, but for some reason the lease owners are backward in starting work.

Southern Indiana is coming in for considerable test work. Some shallow wells have been drilled that are not gushers, but plenty are large enough to make the game profitable. In other sections of the Indiana field wells above the average are being drilled in. The North-western Ohio fields are also making a better showing than for years. Pennsylvania operations have disclosed no large wells. The best producer had a capacity of 50 barrels and was located in Allegheny county. In South-eastern Ohio there is little of unusual feature to note as only one well of any size was drilled in. This was in the Junction City district of Perry county and showed 102 barrels. A 75-barrel producer was drilled in the Musser tract in Fairfield county.

Five new wells are reported in the new fields of Morgan county, Kentucky. One strike had a capacity of 400 barrels daily, according to late advices, constituting the best completion in the Kentucky fields for several months. Four other scattered completions are reported ranging in initial daily production from 25 to 50 barrels. Other fields of Kentucky have contributed nothing sensational in new production.

Little of new interest can be said about the mid-continent fields. Over in the Kansas end there is an active demand for leases, and in the Wayside district prices are soaring. In Montgomery county a number of good gas wells have been found. Wilson county is the scene of active operations and several small wells have been located around Altoona. Some fine wells have been drilled in the Adair pool, production running from 75 to 200 barrels daily.

Refined Products.

The interval occasioned no appreciable change in prices for refined petroleum, and governing conditions appeared to be of the same sound character noted during the past few weeks. Domestic and foreign consumption is holding up well and sellers seem gratified with prevailing trade conditions. Clearances from this port show a substantial increase over those for the previous week. Exports for the interval amounted to 16,316,090 gallons, compared with 6,254,505 gallons for

the former week. The foreign movement of fuel oil also increased materially, shipments last week amounting to 208,250 gallons, against 3,500 the week before.

Steady activity has characterised the naphtha market, demand showing improvement for motor consumption with the advance of the season. Supplies are not excessive, and sellers express confidence in the future course of prices. Exports for the week from this port amounted to 2,070,615 gallons compared with 1,280,690 gallons for the previous week.

The following tank steamers cleared from New York during the past week with refined petroleum, naphtha, and fuel oil in-bulks. The British steamer Narragansett for London with 3,150,000 gallons ref.; the motor ship Hagen for Flushing with 2,573,690 gallons ref.; the German steamer Hera for Flushing with 1,750,000 gallons ref., and 250,000 gallons naphtha; and the schooner barge S.O.C. No. 81 for Halifax with 300,000 gallons ref., 450,000 gallons naphtha, and 150,000 gallons fuel oil.

Lubricating Oils.

This market has been subjected to no appreciable change during the period under review. Buyers have assumed a rather conservative attitude, and while individual sales are relatively small, there is no apparent desire on the part of sellers to lower views.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. June 28.	1913. June 28.
Pennsylvania	\$1.60	\$2.50
North Lima	1.02	1.39
South Lima	0.97	1.34
Indiana	0.97	1.34
Illinois, above 30 degrees	0.85	1.30
Kansas and Oklahoma	0.68	0.88
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex	0.75	0.90
CANADIAN OIL	1.42	1.79

REFINED—FOR EXPORT.

In cents.	Week ended June 28.	
	S.W. 110 test.	W.W. 150 test.
Bulk, New York ... per gal.	5'00	6'00
Barrels, New York, cargo	8'70	9'70
Barrels, Philadelphia	8'70	9'70
Cases, New York	11'00	12'00
Cases, Philadelphia	11'00	12'00

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000	\$11.15
1,000 to 3,000	11.25

REFINED—JOBGING LOTS.

In barrels, pkgs. included.	
130 fire test, S.W.	12
150 fire test, W.W.	12½
From tank wagons	9

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29½

TOTAL EXPORTS.

	Current week. Gallons.	Since Jan. 1, 1913. Gallons.	Since Jan. 1, 1912. Gallons.
Crude	607,000	75,038,639	65,024,270
Refined	18,225,990	401,055,667	418,650,428
Naphtha	2,127,215	61,527,875	59,552,749
Gas oil	66,010	21,305,105	20,974,540
Fuel oil	10,867,250	51,800,910	29,079,125

WORTHINGTON & BOLER,

LIVERPOOL, LONDON & GLASGOW.

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

July 11th, 1913.

The market prices of Refined Petroleum are as follows:—Russian, 8 $\frac{3}{4}$ d.; American, 8 $\frac{1}{2}$ d.; American Water White, 9 $\frac{1}{2}$ d.; Roumanian, 8d.; Galician, 8 $\frac{1}{4}$ d.

LUBRICATING OILS.

The current prices are as follows:—

No. 1 Russian, spot and forward, £12. 2s. 6d.
American pale, from £10. 7s. 6d.
American dark, from £12. 2s. 6d.
American filtered cylinder, from £14. 12s. 6d.

FUEL OIL

is quoted 77s. 6d. per ton, and grease-making oil, 85s. Both naked, in bulk, ex wharf.

MOTOR SPIRIT.

London, retail, 1s. 9d. per gallon for the best, and 1s. 7d. per gallon for the second quality.

TURPENTINE.

American Turpentine is quoted lower, 27s. spot; 27s. 6d. for September/December.

LIVERPOOL.

July 11th.

Petroleum oils have a good sale, and former currencies are asked for Refined, 8 $\frac{3}{4}$ d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, June 17th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	4	12	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	4	8	2 "
Monkey Brand, 125 deg., American	...	4	6	2 "
Tiger Brand in tins, 125 deg., American	...	4	8	2 "
White Camelia Brand in tins, 125 deg.	...	4	0	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	0	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	6	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	0	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	6 0
Rising Sun Brand, New Tins, per pair	...	4	0 0
Bull Brand, Bulk, Loose, per unit	...	3	2 0
Bull Brand, New Tins, per pair	...	3	12 0
Swan Brand, Bulk, Loose, per unit	...	3	1 0
Swan Brand, New Tins, per pair	...	3	11 0
Anchor Tins, per pair	...	4	2 0
Shell 150 deg. cases, per case	...	5	4 0
Anchor cases, per case	...	4	8 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Ex-Godown Prices—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	...	5	8 0
" Firefly, per case of two tins	...	4	10 0
" Chukker, per two tins	...	4	0 0
" " per 8 gallons	...	3	6 0
" Victoria, per two tins	...	3	11 0
" " per 8 gallons	...	3	1 0
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, July 10th.

Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, July 10th.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, July 10th.

The petroleum prices have remained firm. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA. BAKU, July 10th.

The petroleum market has remained firm. Crude oil is quoted at 40 $\frac{1}{8}$ –40 $\frac{3}{8}$ copecs per pood spot. Mazout, 38 $\frac{3}{8}$ –39 copecs. Kerosene, 47 $\frac{1}{2}$ –48 copecs.

ROUMANIA. July 10th.

	Francs.
Crude oil from different fields, including pipe-line charges, per 100 kgs.	7.75–7.80
" " " Moreni	6.50–7.30
" " " Tzintea	4.25–4.75
" " " Policiori	4.50
" " " Bana	0.850
Paraffin	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	29.00–31.00
" sp. gr. 0.715–0.720, f.o.b.	...	25.00–27.00
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–20.00
" sp. gr. 0.740–0.755, f.o.b.	...	16.00–18.00
Residuals, f.o.b. Constanza	...	5.75
Gas Oil	...	8.00

AUSTRIA. July 10th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 33 kronen at Oderberg. Benzine, 710/720, 45 kronen; benzine, 740/50, 34 kronen; 770/80, 22 kronen at Oderberg. Gas oil, 8.00 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, London, E.C., report under date July 11th as under:—

The market continues very quiet with prices in buyers' favour. We quote oil sizes to-day, as follows:—

1c	18 $\frac{3}{4}$ × 14	124 sheets 110 lbs.	13/9 per box.
1c	20 × 10	225 " 156 "	19/9 "

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

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IMPORTS OF PETROLEUM PRODUCTS INTO THE UNITED KINGDOM.

Specially prepared for this Journal by the Customs House.

FOR THE WEEK ENDED JULY 7TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
July. LONDON—				
1	P. Brancher ...	Lub.	80	Antwerp
1	British Petroleum Co. ...	Lamp	455,000	Kustendje
1	G. & H. Green ...	Lub. Gr.	4,990	New York
1	Anglo-American Oil Co. ...	Lub.	28,480	"
1	Trinidad Lake Asphalt Co. ...	Lub. Resid	3,850	Philadel.
2	Bennett's Haulage, etc., Co. ...	Lub.	4,870	"
2	Mercantile Lighterage Co....	"	19,880	New York
2	Vacuum Oil Co. ...	"	10,770	"
2	Ragosine & Co. ...	"	8,400	"
2	Atlantic Transport Co. ...	Lamp	100	"
2	Port Authority ...	Lub.	3,240	Hamburg
2	F. Chiesman & Co. ...	"	4,000	Stettin
2	A. Duckham & Co. ...	Lub. Gr.	60	Antwerp
3	"	Lub.	2,000	"
3	British and Foreign Wharf	"	320	"
3	E. G. Boize ...	Lub. Oil and Gr.	630	Hamburg
3	Port Authority ...	Lub.	130	"
3	American Export Co. ...	"	7,780	New York
3	British Petroleum Co. ...	Lamp	1,732,000	Port Arthur
4	Port Authority ...	Lub.	80	Hamburg
4	Craven & Co....	"	80	"
4	Hanseatic Maritime Agency	"	330	Bremen
4	Lubricating & Fuel Oils Co.	"	43,210	Philadel.
5	J. W. Cook & Co. ...	"	13,600	"
5	Bowring Petroleum Co. ...	"	13,530	"
5	Schliemann Oil, etc., Co. ...	Lub. Oil and Gr.	4,290	Hamburg
5	Price's Patent Candle Co. ...	Lub.	320	Antwerp
7	Lubricating & Fuel Oils Co.	"	4,100	"
7	Page, Son & East ...	Lub. Gr.	120	"
7	Port Authority ...	Lub.	3,000	Hamburg
7	B. Winstone & Sons ...	"	2,400	"
7	Squire & Calvin ...	"	4,000	Fiume
7	Langley, Smith & Co. ...	"	5,610	New York
7	Produce Brokers Co. ...	"	4,000	"
LIVERPOOL—				
1/5	Worthington & Boler ...	"	102,780	Batoum
1	W. Gibson & Sons ...	Lamp	2,050	Boston
1	Meade-King, Robinson & Co.	Lub.	43,640	Baltimore
1	E. Harrison & Co. ...	"	4,000	"
2	W. B. Dick & Co. ...	"	2,500	"
3	I. K. Morris ...	"	200	Genoa
3	Anglo-American Oil Co. ...	Lamp	379,220	Philadel.
3	"	Gas	633,050	"
3	Worthington & Boler ...	Lub.	15,680	"
4	Bramwell, Fern & Co. ...	"	250	"
4	Bowring Petroleum Co. ...	Lamp	2,570	Baltimore
4	Vacuum Oil Co. ...	Lub. Oil and Gr.	24,600	Philadel.
4	"	Lamp	5,800	"
4	Crew, Levick & Co. ...	Lub.	56,570	"
4	"	Lub. Resid	5,230	"
4	Meade-King, Robinson & Co.	Lub.	5,280	"
7	Bennett's Haulage, etc., Co.	"	4,600	"
7	Fellows, Morton & Clayton	"	2,060	"
7	American Line ...	"	21,200	"
7	"	M. Colza	6,000	"
7	Vacuum Oil Co. ...	Lub.	22,840	New York
7	"	Lub. Gr.	5,440	"
7	"	Lub.	12,600	"
7	W. B. Dick & Co. ...	"	4,960	"
7	Anglo-American Oil Co. ...	"	12,360	"
7	D. Owen & Son ...	"	6,230	"
7	Cunard Steamship Co. ...	"	96,720	"
7	Penwarden & Jackson ...	"	120	Antwerp
7	Pickford's ...	"	250	"
7	"	Lub. Oil and Paste	940	Hamburg
BRISTOL—				
1	C. Hill & Sons ...	Lub.	4,600	New York
1	Ford & Canning ...	"	5,060	"
2	W. G. Clarke ...	"	170	Antwerp
2	Pickford's ...	"	90	Hamburg
7	"	Lub. Oil and Gr.	190	"
7	"	"	250	"
7	C. Hill & Sons ...	Lub.	9,600	New York
7	Ford & Canning ...	"	21,680	"

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
July. GLOUCESTER—				
1	Bristol Steam Navig. Co. ...	Lub.	1,720	Hamburg
GRIMSBY—				
1	J. Sutcliffe & Son ...	"	690	Antwerp
HARWICH—				
1	Great Eastern Railway ...	"	1,530	Hamburg
2	"	"	690	Antwerp
HULL—				
1	W. Gilyott & Co. ...	"	27,140	New York
1	"	"	6,000	"
1	T. Wilson, Sons & Co. ...	"	30,840	"
1	Wilson's & N. E. Railway ...	"	720	Hamburg
2	"	"	680	"
2	"	"	1,320	Antwerp
MANCHESTER—				
1	W. W. Jones, Dooly & Co....	"	3,600	New York
1	G. B. Taylor ...	"	53,040	"
1	Liverpool Storage Co. ...	Lub. Oil and Gr.	34,450	"
1	F. Schofield & Co. ...	Lub.	4,050	"
1	Meade-King, Robinson & Co.	"	5,200	Philadel.
1	Worthington & Boler ...	"	7,520	"
1	J. T. Fletcher & Co. ...	Lub. Oil and Gr.	190	Antwerp
3	G. B. Taylor ...	Lub.	13,400	Philadel.
4	Anglo-American Oil Co. ...	Lamp	469,310	"
4	"	Gas	373,000	"
4	D. Currie & Co. ...	Lub.	3,400	Hamburg
5	Pickford's ...	"	280	"
5	Wackerbarth, Holt & Co. ...	Lub. Oil and Gr.	470	Philadel.
5	Diamond Lubricating Co. ...	Lub. Gr.	2,630	Boston
7	D. Currie & Co. ...	Lub.	880	Hamburg
7	J. T. Fletcher & Co. ...	"	800	Ghent
MIDDLESBROUGH—				
1	E. Harris & Co. ...	"	4,400	Antwerp
NEWCASTLE—				
2	P. H. Matthiessen & Co. ...	"	260	Bergen
3	"	"	120	"
5	"	"	80	"
PORTSMOUTH—				
7	Bristol Steam Navig. Co. ...	"	80	Hamburg
SUNDERLAND—				
2	British Petroleum Co. ...	Gas	53,820	Hamburg
SWANSEA—				
1	Burgess & Co. ...	Lub. Gr.	40	"
7	R. Turpin ...	Lub.	1,200	New York
STOCKTON—				
4	E. T. M. Cowburn ...	Turps. Sub.	150	Rotterdam
GLASGOW—				
2	Clyde Shipping Co. ...	Lub. Oil and Gr.	2,420	Antwerp
2	Anchor Line ...	Lub.	5,240	New York
4	"	Lub. Gr.	800	"
4	Allan Bros. & Co. ...	Lub.	47,120	Philadel.
5	Donaldson Bros. ...	"	2,600	Baltimore
7	Allan Bros. & Co. ...	Lub. Gr.	800	Boston
7	Anchor Line ...	M. Colza	2,400	New York
7	"	Lub.	21,450	"
ABERDEEN—				
4	R. C. Reid & Co. ...	Lub. Oil and Gr.	440	Hamburg
LEITH—				
1	G. Gibson & Co. ...	Lub.	320	Antwerp
2	G. V. Turnbull & Co. ...	"	30,100	Philadel.
DUBLIN—				
1	P. Murphy & Co. ...	"	120	Antwerp
1	"	"	90	Hamburg
Deduct—			5,124,230	
LIVERPOOL—				
5/6	Anglo-American Oil Co. ...	Lamp	7,860	New York
5/6	"	Lub.	6,420	"
SUNDERLAND—				
22/5	British Petroleum Co. ...	Lamp	24,800	Port Arthur
			5,085,150	

From Lloyd's

JULY 10TH, 1913.

THE "REVIEW" SHIPPING LIST.

The following abbreviations are used in this table:—L. Left. Pd. Passed. Arr. Arrived. Sp. Spoken. T. Trading. Cl. Cleared.
The Anglo-American Co.'s vessels marked thus (*). The Anglo-Saxon Co.'s tankers thus (Δ). Messrs. Lane & Macandrew's thus (□).

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
ADORNA	San Francisco	Pisagua	L. June 29	CZAR NICOLAI II... ..	Batoum	Hamburg ...	Arr. July 4. In
AMERICAN	Antwerp.....	Philadelphia.	Pd. Prawle Pt. July 7	DAGHESTAN	Antwerp.....	Batoum	port July 8
APPALACHEE*	Liverpool ...	Kurrachee ...	L. July 8	DAKOTAH* (now named Kanakuk)	San Francisco	Hong Kong	Pd. Gibraltar July 5
APSCHERON	Kustendje ...	Venice	Pd. Dardanelles July 4	DANUBIAN □	Batoum	Amsterdam & London	Arr. ab't June 21
ARAL	Tyne	Philadelphia.	Arr. July 9	DAYLIGHT (Br. Bq.)	Philadelphia.	Hiogo	Pd. Ushant July 9
ARAS	Sabine.....	Swinemunde	L. Norfolk, Va., July 1	DELAWARE*	Sabine	Belfast ...	Arr. May 1
ARCA	London	Aroe Bay ...	Pd. Perim July 7	DELAWARE SUN (American Schooner)	Philadelphia.	Sabine	L. Norfolk, Va., June 27
ARTHUR VON GWINNER	—	—	Launched Eins- warden Dec. 24. Since complet'g	DERBENT	Batoum	ThamesHaven	L. May 29
ASHTABULA*	San Francisco	Pisagua	Arr. ab't June 25	DEUTSCHLAND	Philadelphia.	Rotterdam ...	Pd. Dardanelles July 6
ASTRAKHAN	Kustendje ...	Dunkirk.....	Pd. Dover July 10	DIAMANT	Philadelphia.	Rotterdam ..	L. July 2
AUREOLE	Philadelphia.	Hamburg ...	Pd. Lizard July 9	EL LOBO	Lobitos	—	Arr. July 8
AZOV ...	Payta	Callao.....	Arr. ab't July 8	EL SEGUNDO	Tacoma	San Francisco	L. June 24
BAKU STANDARD...	Newport	Port Arthur..	Pd. Barry Island July 4	EL TORO	—	—	L. June 2
BALAKANI □	Newport News	New Orleans & Mobile	L. July 1	ELAX Δ	Aomori	Saitozaki ...	Launched Tyne June 3
BATOUM	Hull	New Orleans.	L. June 30	ELISE MARIE	New Orleans.	Gothenberg	L. July 3
BAYONNE	Savona	Messina	L. July 2	EMANUEL NOBEL...	Batoum	Kustendje ...	L. Port Eads June 29
BEACON LIGHT	Port Arthur	Invergordon.	Pd. Butt of Lewis July 10	ENERGIE	Campana ...	Tampico	Pd. Dardanelles July 9
BLOOMFIELD	New Orleans	Tuxpan	L. Port Eads June 26	ERIVAN	Hamburg ...	Kustendje ...	L. June 22
BORJOM.....	Alexandria...	Batoum	Cl. Constanti- nople July 2	ESTURIA	Singapore ...	Calcutta	Pd. Ushant July 7
BRILLIANT (Br. Bq.)	Philadelphia.	Hiogo	Pd. Anjer ab't June 27	EUPLECTELA Δ	Granton	Tyne	L. June 25
BRILLIANT	Hamburg ...	Philadelphia.	L. June 30	EXCELSIOR	Hamburg ...	New York ...	Arr. Feb. 28. In port June 24
BRITISH SUN	Hamburg ...	Batoum	Arr. July 8	F. A. TAMPLIN	Tyne	P. Mexico ...	Pd. Dungeness July 4
BROADMAYNE	Calais	New York ...	Pd. Scilly July 6	FRANCE MARIE.....	Tampico.....	Port Arthur .	Arr. July 5, for Southampton and London
BUFFALO	Shanghai ...	San Francisco	L. July 6	(Belgian Ship)	—	—	Arr. June 20
BULLMOUTH Δ	Balek Pappan	Singapore ...	L. July 3	FUMI MARU	Manila	Shanghai ...	L. May 26
BULYSESSE Δ	Cardiff	Batoum	Arr. July 6	GEESTEMUNDE ...	Tampa	Tampico.....	Arr. June 19
BURGERMEISTER PETERSEN	Philadelphia.	Nynashamn..	Pd. Elsinore July 6	GENESSE*	Sunderland..	New York ...	L. July 6
C. A. CANFIELD.....	Baltimore ...	Tampico.....	Cl. June 26	GEORGIAN PRINCE	Tampico.....	—	L. July 6
CALCUTTA (Br. Bq.)..	Yokohama ...	San Francisco	Arr. June 16. In port June 27	GOLDMOUTH Δ	Singapore ...	Gibraltar ...	L. June 25
CAMILLO	Batoum	Shanghai ...	Arr. July 5	GUTHEIL	Tuxpan	—	Sunk after collision at Baton Rouge April 28
CAPTAIN A. F. LUCAS	—	—	T. United States, Pacific	H. C. HENRY.....	Amsterdam..	Seattle ...	L. July 6
CARDIUM Δ	Batoum	Aroe Bay ...	Arr. Singapore July 4	HAGEN	New York ...	Hamburg ...	Sp. July 4, 43 N., 40 W.
CARPATHIAN □	Kustendje ...	Manchester .	Arr. June 30. In port July 8	HAINAUT (Barge) ...	—	—	T. between Tampico and Aransas Pass
CAUCASIAN □	Port Arthur & Newport News	London	Pd. Cape Henry June 26	HARPORT	San Francisco	Payta	L. June 25
CHARLOIS.	New York ...	Rotterdam ...	Arr. June 28. In port July 8	HARRY	Galveston ...	Tampa ...	L. June 30
CHATHAM.....	New York ...	Tampico	L. June 30	LUCKENBACH	—	—	—
CHESTER	Antwerp.....	New York ...	Pd. Lizard June 27	HARRY WADSWORTH*	London	Jacksonville.	Arr. Norfolk, Va., July 5
CHEYENNE	Savona	Novorossisk..	Pd. Dardanelles June 29	HELIOS	Tyne	Baton Rouge	Pd. Sand Key July 8
CIRCASSIAN PRINCE	—	—	T. W.C. South America	HERA	New York ...	—	Pd. Wesor Light- house July 7
CITY OF EVERETT	New York ...	Tampico ...	110 miles S. of Jupiter June 23	HERBERT G. WYLIE	Sabine	Tampico	L. June 29
CLAM Δ	Novorossisk..	Rotterdam ...	Pd. Dover July 8	HERMIONE	Port Arthur..	Sheerness ...	L. Newport News June 27
CLEARFIELD	Tuxpan	New York ...	L. July 3	HESPERUS	New York ...	Tuxpan	L. June 28
CLIO.....	Rotterdam ...	Baton Rouge	Pd. Lizard June 22	HORLEY	Port Arthur.	Rio Janeiro...	L. June 22
COMANCHEE	Manchester ..	Sabine.....	L. Liverpool July 9	HOTHAM NEWTON	Zeebrugge ...	New York ...	L. Gijon June 26
CONCH Δ	Suez	Abadan	Arr. Aden July 8	HYRCANIA	Kustendje & London	Hull	Arr. July 5. In port July 9
CONRAD MOHR	Tyne	New Orleans	L. June 19	IMPEROYAL	St. John, N.B.	Quebec	Arr. June 3
CORDELIA	San Francisco	Taltal	L. Port San Luis May 31	IMPOCO	Grangemouth	New York ...	Pd. Cape Wrath July 6
COWRIE Δ	Calcutta	Rangoon.....	Arr. July 3	IOANNIS COUTZIS...	—	—	On Govt. Service
CURRIER ...	Norfolk, Va.	Matanzas ...	253 miles S. of Overfalls June 28	IROQUOIS* (Towing Barge Navahoe)	London	Philadelphia.	Arr. July 4
CUYAHOGA*	Sabine & Norfolk, Va.	Port Said ...	L. Algiers July 4	J. B. AUG. KESSLER	San Francisco	Shanghai ...	L. June 22
CYMBELINE	Rotterdam ...	Kustendje ...	Pd. Dardanelles July 5	JULES HENRY	Marseilles ...	Rotterdam ...	Arr. May 24. In port July 8
				(Fr. Bq.)	—	—	—
				JULIUS RUTGERS...	Kotka.....	Emden	Arr. July 5
				JUNO	Singapore ...	Miri.....	Arr. June 18
				KASBEK.....	ThamesHaven	Tyne	Arr. June 24. In port July 2

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
KIYO MARU.....	Callao.....	Hong Kong..	L. Honolulu June 13	ROTTERDAM	Baton Rouge	Amsterdam...	Arr. July 6
KOMETA	Spezia.....	Kustendje ...	Pd. Dardanelles July 3	ROUMANIAN □	Port Arthur..	London.....	Arr. July 3. In port July 9
KREMLIN (late Snowflake)	Kustendje ...	—	Pd. Dardanelles July 3	ROUMANIAN PRINCE	Baltimore ...	—	L. June 30
KURA	Tyne	Port Arthur..	L. June 23	RUSSIAN PRINCE...	Sabine.....	—	L. June 26
LA CAMPINE	Antwerp.....	Tyne	Arr. July 1	SALAHADJI Δ	Singapore ...	Colombo	Arr. July 3
LA FLANDRE	New York..	Antwerp...	L. June 29	SAMOSET (late Cadillac)	Liverpool ...	New Orleans.	L. Norfolk, Va., June 25
LA HESBAYE	Norfolk, Va..	Antwerp.....	Pd. Delaware B'water June 28	SAN ANTONIO.....	—	—	T. Mexican Coast
LACKAWANNA*	Philadelphia.	London	104 miles S.E. of Brow H'd July 9	SAN BERNARDO ...	—	—	T. Mexican Coast
LE COQ □	Gijou	New York ...	L. July 9	SAN CRISTOBAL	—	—	T. Mexican Coast
LEUTSCH	Kustendje ...	Alexandria...	Arr. July 3	SAN DUNSTANO.....	Norfolk	London	L. July 6
LUCELLUM	—	—	Launched Wear June 14	SAN EDUARDO	Galveston ...	Tuxpan	L. June 28
LUCERNA	Kustendje ...	Rotterdam ...	Arr. June 5. In port July 8	SAN FRATERNO.....	Puerto Mexico	United Kingdom	L. July 7
LUCIGEN	Cardiff.....	Port Arthur..	Arr. July 8	SAN GREGORIO	—	—	Launched Tyne June 5. In port June 16
LUCILINE □	Pauillac	Philadelphia.	L. June 26	SAN RICARDO	Tees... ..	New Orleans	Pd. Dover July 1
LUMEN	Marseilles ...	Novorossisk..	L. July 6	SAN SILVESTRE.....	Tyne	Philadelphia.	Pd. Butt of Lewis July 7
LUTETIAN □	New York ...	Havre	L. July 1	SANTA RITA	Port San Luis	Bilbao	L. May 25
LUX □	New York ...	Barcelona ...	L. June 30	SARANAC* (now named Satanta)	Calcutta.....	New York ...	L. June 10
MAKKAWEI	Marseilles ...	Odessa.....	Arr. June 29	SAXOLEINE	Tyne	New York ...	Arr. July 2
MANNHEIM	Baton Rouge	Hamburg ...	L. Norfolk, Va., July 3	SEBASTIAN	—	—	Launched Dun- dee April 24, since compltg.
MARGARETHA	Sunderland..	Philadelphia.	Pd. Lizard June 27	SERMINOLE* (now named Wabasha)	—	—	—
METEOR.....	Vladivostock.	Batoum	Arr. Singapore ab't July 7	SERVIAN □	Tyne	Port Arthur..	Pd. Sand Key July 8
MEXICAN PRINCE..	Singapore ...	Hong Kong..	L. July 1.	SHWEDAGON	Calcutta	Rangoon.....	L. June 9
MIJDRECHT	Kustendje ...	Vlaardingen.	Pd. Dardanelles July 9	SIOUX.....	New York ...	Mexico	Put back to New York
MINA BREA.....	Talara.....	San Francisco	Arr. July 8	SIRIUS (Ger.) ...	New Orleans.	Rotterdam ...	L. Port Eads June 29
MIRA	Kustendje ...	Toulon	Pd. Dardanelles July 2	SOCONY	New York ...	Tampico.....	L. June 10
MITRA	Portishead...	Malta	Pd. Gibraltar July 4	STANDARD	New Orleans.	Tampico.....	L. Port Eads June 22
MOHAWK*	Mexico	New York ...	Arr. June 23	STROMBUS Δ	London	Port Arthur..	Pd. Sand Key July 8
MUREX Δ	Sydney	Balek Pappan	L. July 2	SULTAN VAN LANGKAT Δ	Soesoe.....	Singapore ...	Arr. July 1
NARRAGANSETT ...	New York ...	London	Arr. July 8	SUN	Philadelphia.	Sabine.....	203 miles N. of Jupiter June 30
NATICA	Thames Haven	Rangoon.....	Pd. Perim July 8	SUNLIGHT (Br. Bq.)	Boston	Macoris ...	L. June 23
NEKO	Hamburg ...	Leith	Arr. July 6	SURAM	Swinemunde	Immingham.	Arr. Hull July 5
NELSON	Port Arthur..	Philadelphia.	598 miles S. of Scotland Light June 23	SUWANEE*	Philadelphia.	Liverpool ...	Pd. Delaware B'water June 30
NEW YORK*	New York ...	Rotterdam...	L. July 1	TAMARAC*	San Francisco	Moji	L. May 17
NIAGARA	Shanghai ...	San Francisco	L. July 4	TARAKAN.....	Rotterdam ...	Batavia	Arr. June 5
NORMAN BRIDGE...	Galveston ...	Tampico	L. June 23	TECUMSOH	Tampico	New York ...	Arr. July 5
OBERON.....	Port San Luis	Tocopilla ..	Cl. San Francisco June 13	TELENE Δ	Singapore ...	Gibraltar ...	L. Port Said July 3
OCEAN	New York ...	Amsterdam...	L. July 2	TEREK	Cardiff	Philadelphia.	Pd. Barry Island July 5
OILFIELD	Savona	Kustendje ...	Pd. Dardanelles July 3	TEXAS	Port Arthur..	New York ...	Arr. June 15. In port June 25
ORIFLAMME □	Cette	Kustendje ...	L. July 6	TIFLIS	Tyne	Constanti- nople	Cl. July 5
OSAGE	Tyne	New Orleans.	L. June 20	TONAWANDA*..	Sabine.....	Belfast	Arr. Newport News June 30
OTTAWA*	Baton Rouge	London	L. Norfolk, Va., June 28	TRINCULO.....	Port San Luis	Vancouver...	Arr. June 30
OURAL	Batoum	Dunkirk.....	Pd. Dardanelles July 6	TRINIDADIAN.....	Port Tampa..	New York ...	Arr. June 27
PATELLA Δ	Singapore ...	Rotterdam ...	Arr. July 7	TRITON	Baton Rouge	Hamburg ...	L. July 7
PAUL PAIX.....	New York ...	Calais	L. July 3	TROCAS Δ	Abadan	Sabang	L. Colombo July 2
PAULA	Philadelphia.	Dantzig	Arr. July 5	TURBO	Rotterdam ...	Aroe Bay ...	Pd. Perim June 27
PECTAN	San Francisco	Antofagasta..	L. Port San Luis June 11	TUSCARORA (now named Powhatan, which see)	—	—	—
PENNOIL	Port Arthur..	Dover	L. June 30	UNCAS	Clyde	New York ...	Arr. July 9
PETROLEINE	Tyne	—	Pd. Dardanelles July 3	VEDRA	Hamburg ...	Port Arthur..	Arr. July 7
PHOEBUS	San Francisco	Pisagua	L. June 19	VILLE DE DIEPPE (Norwegian Barque)	La Pallice ...	New York ...	Arr. June 30
PINNA □	New Orleans	Avonmouth..	L. Newport News June 27	VOLCANUS	Palembang...	Singapore ...	Arr. July 6
POTOMAC*	Selzaete	New Orleans.	L. Norfolk, Va., June 25	VOLUTE Δ	Shanghai ...	Singapore ...	Arr. July 5
POWHATAN (late Tuscarora)	San Francisco	Muroran.....	L. June 28	WABASHA (late Seminole)	San Francisco	Moji	L. June 20
PROMETHEUS.....	Galveston ...	Tampico	L. June 29	WANETA (lt. Impoco)	New Orleans	Tampico	L. Port Eads June 17
PRUDENTIA.....	Trinidad...	New York ...	Arr. June 27	WASHINGTON	Sabine.....	Bombay ...	L. Norfolk, Va., June 25
PURELIGHT.....	Tyne	Philadelphia.	Arr. July 5	WEEHAWKEN	Hamburg ...	Batoum	Pd. Dardanelles July 6
QUEVILLY (Fr. Bq.)	Rouen	New York ...	Arr. July 3	WILLIAM F. HERRIN	Port San Luis	Honolulu ...	L. June 25
RADIOLEINE II. ...	Rouen	Braila	L. Dartmouth July 6	WILLKOMMEN	Hamburg ...	New York ...	Arr. July 6
RANELLA	Newcastle, N.S.W.	Palembang...	L. June 24	WINNEBAGO	San Francisco	Muroran.....	Arr. Yokohama ab't July
RENDOVA (Br. Bq.)	Seville	New York ...	L. Bonanza June 6	WOTAN	Batoum ...	Rotterdam...	Arr. June 21. In port July 8
RION	Tyne	Kustendje ...	Pd. Dardanelles July 6				
ROCK LIGHT □	Port Arthur..	Rotterdam ...	L. Newport News July 3				
ROMANY Δ	Singapore ...	Rouen.....	L. Port Said July 6				
ROSALIND.....	London	Port Arthur..	Arr. July 8				

The Petroleum Review Directory.

For the insertion of Name and Address in this Directory the charge is 26s. per annum (52 insertions); additional headings 5s. each per annum, payable in advance.

AIR COMPRESSORS.

Hughes & Lancaster, 16, Victoria Street, S.W.

AUTOMATIC CASK FILLERS (CRAWFORD'S).

Hatch, Geo., Ltd., 20-21, Queenhithe, Upper Thames Street, London, E.C.

BELTING MANUFACTURERS.

Willcox, W. H., & Co., 32 to 38, Southwark Street, S.E.

BOILERS.

Marshall, Sons & Co., Ltd., Britannia Works, Gainsborough.

BORING TOOLS.

Deep Well Tool and Boring Co., Ltd., St. Albans.
Galizische Karpathen Petroleum-Aktiengesellschaft,
Glinik Maryampolski, Galleia, Austria.

Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.
Oil Well Supply Co. (Pittsburgh), Dashwood House,
London, E.C.

Thom, John M., Patricroft, near Manchester.
Tranzl & Co., Vienna.

BUILDINGS.

Boulton & Paul, Ltd., Norwich.

CHEMICALS.

Spencer, Chapman & Messel, Ltd., 36, Mark Lane,
London, E.C.

DRILLING MACHINERY.

Deep Well Tool and Boring Co., Ltd., St. Albans.
Fraser & Chalmers, Ltd., 3, London Wall Buildings,
London Wall, E.C.

Marshall, Son & Co., Ltd., Britannia Works, Gainsborough (Boilers and Steam Engines).

Oil Well Supply Co. (Pittsburgh), Dashwood House,
London, E.C.

Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.

FLEXIBLE WIRE-BOUND HOSE.

Willcox, W. H., & Co., Ltd., 32 to 38, Southwark Street, S.E.

HAND PUMPS.

Hatch, Geo., Ltd., 20-21, Queenhithe, Upper Thames Street, London, E.C.

Willcox, W. H., & Co., Ltd., 32 to 38, Southwark Street, S.E.

LAMP OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.

Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.

Homelight Oil Co., Ltd., 14, St. Mary Axe, E.C.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

LIQUID FUEL BURNERS.

Kermode's Liquid Fuel System, 35, The Temple, Dale Street, Liverpool.

LIQUID FUEL IMPORTERS.

The Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.

Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.

Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.

LIQUID FUEL INSTALLATIONS.

The Wallsend Slipway and Engineering Co., Ltd., Wallsend-on-Tyne.

LUBRICATING OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.

Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.

Bramwell, Fern & Co., London, Manchester and Liverpool.

Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.

Crew Levick Co., Irwell Chambers, W. Liverpool.

Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.

Meade, King, Robinson & Co., 22, Water Street, Liverpool, and Manchester.

The Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Work Co., Pittsburgh, Pa., U.S.A.

Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL BROKERS.

Beujamin & Gee, 31, St. Mary Axe, E.C.

Bramwell, Fern & Co., London, Manchester and Liverpool.

Lane & Macandrew, 26, Great St. Helen's, E.C.

OIL EXPORTERS.

Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Works Co., Pittsburgh, Pa., U.S.A.

OIL ENGINES.

Norris & Henty, 87, Queen Victoria Street, E.C.

Marshall, Sons & Co., Ltd., Britannia Works, Gainsborough.

OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.

Anglo-Maikop Corporation, Ltd., 7, Angel Court, E.C.

Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.

Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.

Crew Levick Co., Irwell Chambers, W. Liverpool.

Homelight Oil Co., Ltd., 14-20, St. Mary Axe, E.C.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Works, Pittsburgh, Pa., U.S.A.

Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL PIPE-LINES.

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RAILWAY TANK WAGONS.

Hurst, Nelson & Co., Ltd., The Glasgow Rolling Stock and Plant Works, Motherwell; Northern Assurance Buildings, Albert Square, Manchester; and 14, Leadenhall Street, London, E.C.

RUSSIAN OIL IMPORTERS.

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Homelight Oil Co., Ltd., 14, St. Mary Axe, London E.C.

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TIN PLATES.

Norton, Owen & Co., 4, Bishopsgate Street Within, E.C.

Prior, S. J. B., 5, Laurence Pountney Hill, E.C.

TRAM AND WAGON GREASE.

Goodall & Simpson, Ferry Road Oil Works, Cardiff.

TUBES (STEEL AND IRON).

Deutsche - Oesterreichische Mannesmannröhren Werke, Düsseldorf, Germany.

Russell, John, & Co., Ltd., Alma Tube Works, Walsall.

Spencer, John, Ltd., Globe Tube Works, Wednesbury.

Thom, John M., Patricroft, near Manchester.

WAXES.

Benjamin & Gee, 31, St. Mary Axe, E.C.

WIRE ROPES.

Glaholm & Robson, Ltd., Sunderland. London Office: Finsbury Court, Finsbury Pavement, London, E.C.

Smith, Thos. & Wm., Guildhall, Newcastle-on-Tyne.

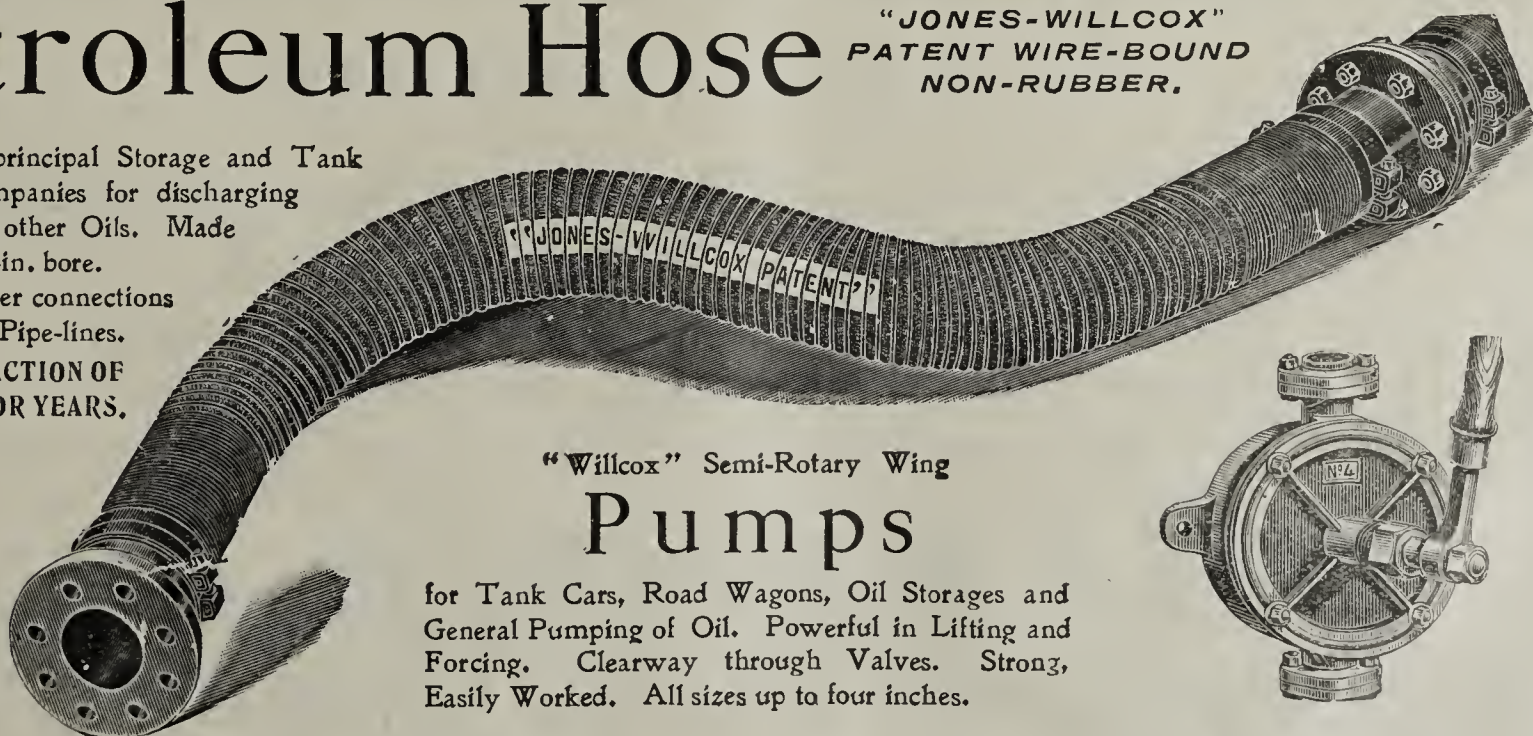
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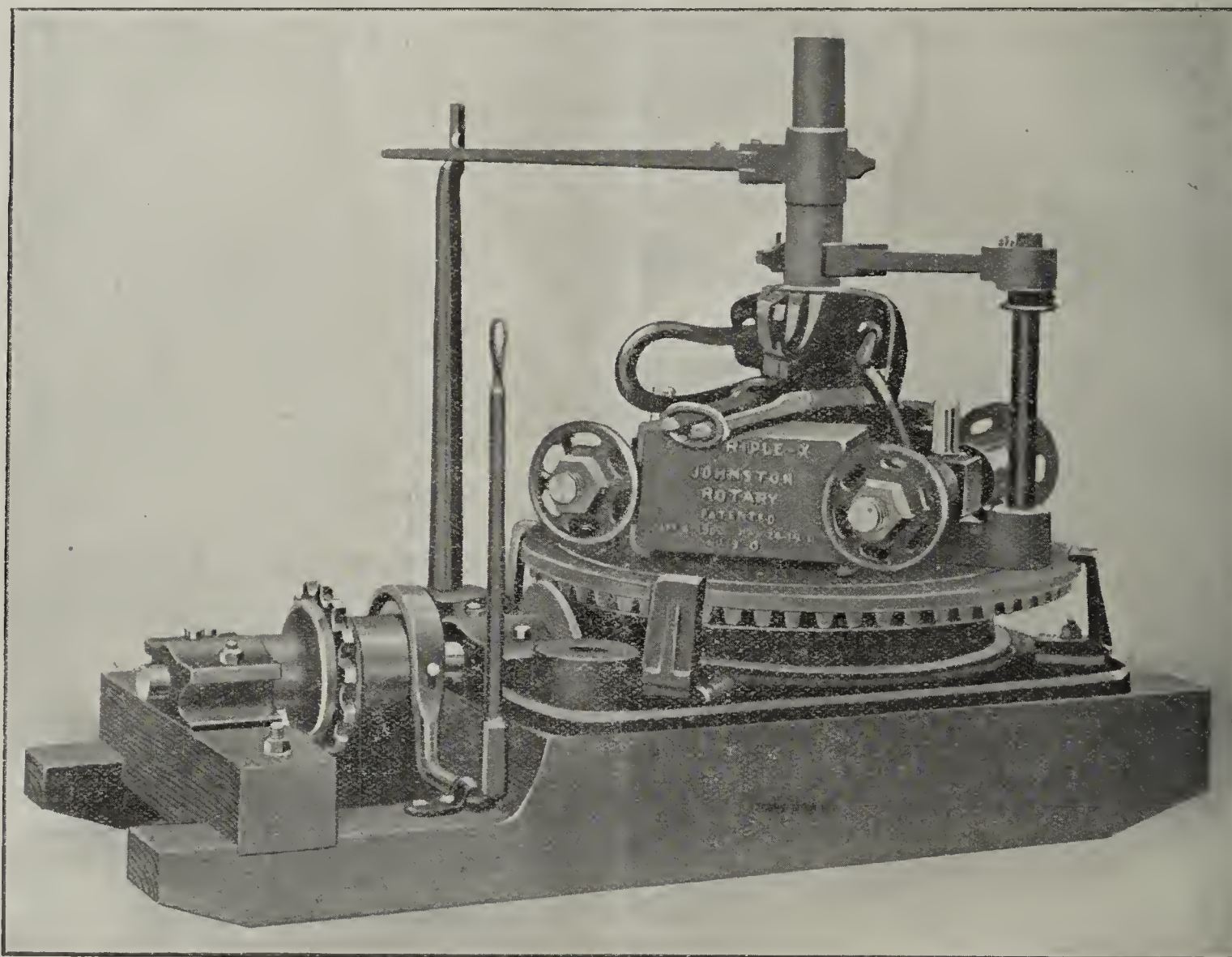
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The Petroleum Review.

Founded by PAUL DVORKOVITZ.

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No. 574.

THE PETROLEUM REVIEW.

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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

Activity in the Grosny Fields.

IN spite of the fact that in some parts of the Grosny field the water trouble has materially decreased production the greatest activity now prevails, and it is expected that the current year's production will show a material gain over that of last year. The output for the first four months of this year has been nearly 3,000,000 poods in excess of the production for the corresponding period of 1912, and in view of the increased area which is now being exploited and the activity of the drill throughout the whole region, it is safe to assume that this increase over last year's output will be more pronounced as time goes on. For the first four months of this year no less than 31,000 ft. were bored in new wells, which is over 50 per cent. in excess of the activity displayed during the early months of last year. There is no doubt that the high prices which petroleum and its products are now commanding in Russia have given an enormous impetus to operations in the various oilfields of the Empire, prominent among which, as we have shown, stands the Grosny region.

The Kern River Oilfields of California, Ltd.

AS will be seen from an announcement in this issue, the Kern River Oilfields, Ltd., is making a bold bid to materially strengthen its position in connection with the Californian petroleum industry, and we are certain that the shareholders will unanimously confirm the action of the board in securing additional territories in some of the best fields. The latest additions to the company's lands, upon which drilling is to be immediately commenced, are situate in the Midway and Fullerton fields, both excellent regions for oil production, and already admitted as among the finest of the State's petroliferous lands. The new lands are eminently favourably situated, for they are close to properties which have proved themselves to be wonderfully prolific. Whatever can be said of the Kern River Company's position in the past, it is an assured

fact that to-day it stands as one of the most influential and most promising oil enterprises associated with the Californian oil industry.

The "Shell" in Mexico.

THE brief announcement which has been circulated during the present week to the effect that the first well upon the property of the "Shell" Transport and Trading Company's interests in Mexico has been brought in, and is now yielding approximately 200 barrels of crude oil daily, once again directs attention to the energy with which this company is, through its associates, laying the basis of a gigantic production of petroleum in almost every producing country in the world. It may be interesting to recall the fact that "La Corona," which is the new company formed by the Bataafsche Petroleum Maatschappij for developing the extensive territories which it has acquired in Mexico, was only formed six months ago, at the Hague, and it says much both for the activity and the remarkable organisation which is behind the "Shell" interests that it has brought in its first producing well in such a short space of time. Already these interests have over 20,000 acres of land in the Mexican Republic, while we officially learn that negotiations are on the point of conclusion for an even larger territory. There is no doubt that with such influential interests as those already mentioned, the Mexican petroleum industry will increase in its importance at a rate which has no parallel in the world's oil history.

Roumania's Prolific Petroliferous Wealth.

WE have had many examples of Roumania's prolific wealth of petroleum. Ever since the advent of the steam drill, which succeeded the reign of the hand-dug well, Roumania's oil wealth has been exploited most profitably in numerous parts of the country; but there have been few instances where its enormous oil wealth has been so conclusively proved as in the case of the Moreni-Tzuicani district. In this locality, which is now receiving the attention of many operating companies, the prolific nature of the oil sands is without precedent in Roumania's petroleum history. Over a year ago, the first well of the Colombia Company was brought in in this district, and developed a spouter, commencing with a production of about 1,000 tons daily. For some months the yield continued regular and with but little reduction, while even to-day, after an interval of over twelve months, the well is producing 700 tons daily. The strike has certainly proved a fortune for the Colombia Company, since the value of the well's production so far, over 325,000 tons, has not only paid the cost of the well itself, but has covered the total capital of the company, paid all its

liabilities, and left it with a few million francs in pocket. Such remarkable results as are proved by the Colombia well speak volumes for the remunerative nature of Roumanian oil investments.

DEATH OF A STANDARD OIL COMPANY ORGANISER.

WE regret to announce the decease of Mr. Louis H. Severance, one of the organisers of the Standard Oil Company, and noted throughout America for his gifts to colleges and missionary schools.

In the earlier years of the existence of the Standard Oil Company, Mr. Severance was a close associate of Mr. John D. Rockefeller. Several years ago he withdrew from active participation in business affairs.

NEXT YEAR'S INTERNATIONAL OIL EXHIBITION.

General Meeting Called for Wednesday.

MR. G. D. SMITH, the organiser of next year's International Oil Exhibition which is to take place at Earl's Court, returned from his American tour a few days ago, and, according to the promise he made to the Advisory Council prior to his departure for the States, informs the REVIEW that he is calling a general meeting of gentlemen interested in the oil trade to take place on Wednesday next, at the Holborn Restaurant. It is hoped that all who can possibly spare an hour or so will do their best to put in an appearance, as it is Mr. Smith's desire that the meeting shall be as representative as possible. The meeting will commence at five o'clock.

THE OIL SHARE MARKET.

CONTINUED dulness has been the chief characteristic of the oil market during the present week, practically every class of stock having remained either stationary or given way, the few exceptions being Shells, Lobitos, a few Maikops, and Kern Rivers. The recent purchase by the Kern River Oilfields of California, Ltd., of additional oil lands in highly promising territory has created a favourable impression among investors, and a steady upward tendency is already noticeable.

THE ADMIRALTY AND OIL FUEL.

A VERBATIM report of Mr. Winston Churchill's momentous speech in the House of Commons on Thursday upon the above subject, taken by our own representative, has unfortunately been held over this week on account of space. It will appear in next week's issue.

PERSONAL.

MR. LEWIS HAMILTON arrived during the present week in London upon his return from a three months' tour in the Russian oilfields.

DR. P. DVORKOVITZ returns to London next week from a few weeks' stay in Russia.

MR. LOUIS SANDS, of the Oil-Well Supply Company, left London last Saturday to return to the States.

MR. F. G. CLAPP, managing geologist of the Associated Geological Engineers, Pittsburgh, Pa., has sailed for Europe for professional work in Hungary.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended July 12th was 102,000 poods.

SPIES PETROLEUM COMPANY, LTD.—Production, week ended July 13th, including 32,145 poods from ambars, was 278,630 poods, or about 4,494 tons. The total production for the year, from Jan. 14th to July 13th, was 7,497,415 poods, or about 120,926 tons. The total production for the corresponding period last year was 8,666,305 poods, or about 139,779 tons. Price of crude oil at Baku, 41½ copecs per pood.

THE MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended July 12th was 12,955 poods (209 tons).

THE EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended July 13th was 101,600 poods, or 1,638 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended July 12th was 130,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended July 12th was 30,947 poods (499 tons).

THE MAIKOP SPIES COMPANY, LTD.—The production of this company for the week ended July 13th was 10,562 poods, or about 170 tons.

MAIKOP NEW PRODUCERS, LTD.—Production for week ended July 12th was 8,600 poods, or 139 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended July 13th was 17,174 poods, or 277 tons.

THE NORTH CAUCASIAN OIL FIELDS, LTD.—Production for the week ended July 8th was 121,200 poods, or 1,955 tons. Corresponding period last year, 533 tons. Total production to date for this year, 45,878 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended July 13th was 83,534 poods, or 1,346 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended July 12th was 5,000 poods.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended July 5th was 4,960 poods.

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended July 12th was 2,960 poods (48 tons).

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America's Petroleum Industry during 1912.

OFFICIAL REPORT.

ACCORDING to the review of the American petroleum industry during 1912, compiled by the United States Geological Survey and just issued, it appears that the great production of petroleum in 1911, which was 220,449,391 barrels, was equalled and passed in 1912, when the total reached 222,538,604 barrels. Higher prices were the rule in 1912, except in California, and even in that State there was no material decline. The total value therefore increased markedly, reaching \$164,087,342 or 22.41 per cent. above the value for 1911. The greatest increase in quantity was in California, where the total advanced from 81,134,391 to 86,450,767 barrels, a gain of 5,316,376 barrels, or 6.55 per cent. Wyoming showed the remarkable gain of 742 per cent. from 186,695 barrels to 1,572,306 barrels, owing to the increased activity of the Mid-West Oil Company and the Wyoming Oil Fields Company. Operations in Northern Texas also more than offset the usual decline in the Gulf region and resulted in a significant gain for the State.

The volume of crude oil and of the usual products exported from the United States increased, owing to the fact that foreign conditions were much more favorable to American exporters. Meanwhile the importation

of gasoline from the East Indies was a favorable element in relieving the growing demand for this product on the Pacific Coast.

The improved conditions in the export trade and the increased capacity of the refiners to take care of the great yield of crude oil resulted in a marked decline in stocks in all fields except California, and even there the storage of petroleum was checked by an increase in consumption.

The total stocks of all crude oils at the beginning of 1912 aggregated 138,000,000 barrels. By the close of the year they had declined to 125,000,000 barrels, a decrease of about 10 per cent. The decline was greatest in the fields east of the Rocky Mountains, where on January 1st, 1912, the stocks aggregated 94,000,000 barrels; they were reduced during the year to 79,000,000 barrels, a decrease of about 16 per cent.

This decline at once brought out a marked stimulation of prices all over the East, with a view to increasing the activity of drilling. Its effect was so marked that the natural decline of the older fields was checked. Even Ohio showed a slight increase in production in 1912, for the first time in twelve years.

The total production by States as published in the

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TEXAS, ALSO AT TAMPICO (MEXICO).

advanced summary in the *Oil Paint and Drug Reporter*, is as under :—

Quantity of petroleum produced in the United States and the average price per barrel in 1912 :—

State.	Quantity (barrels).	Value.	Average price per barrel.
California	86,450,767	\$39,213,588	\$0.454
Colorado	206,052	199,661	0.973
Illinois	28,601,308	24,332,605	0.851
Indiana	970,009	885,975	0.913
Kansas	1,592,796	1,095,698	0.688
Kentucky	484,368	424,842	0.877
Louisiana	9,263,439	7,023,827	0.758
New York	874,128	1,401,880	1.604
Ohio (including Michigan)	8,969,007	12,085,998	1.347
Oklahoma	51,852,457	34,957,612	0.674
Pennsylvania	7,837,948	12,886,752	0.644
Texas... ..	11,735,057	8,852,713	0.754
Utah	1,572,306	798,470	0.507
Wyoming			
West Virginia	12,128,962	19,927,721	1.643
Total for 1912 ...	111,538,604	164,087,342	0.737
Total for 1911 ...	220,449,391	134,044,752	0.608

Production of petroleum and percentage of increase or decrease, by States, in 1912 compared with 1911 :—

		Production (barrels).			
		1911.	1912.		
California	...	81,134,391	86,450,767		
Colorado	...	226,926	206,052		
Illinois... ..	...	31,317,038	28,601,308		
Indiana	...	1,695,289	970,009		
Kansas... ..	...	1,278,819	1,592,796		
Kentucky	...	472,458	484,368		
Louisiana	...	10,720,420	9,263,439		
Michigan	...	7,995	—		
Missouri	...				
New York	...	952,515	874,128		
Ohio	...	8,817,112	8,969,007		
Oklahoma	...	56,069,637	51,852,457		
Pennsylvania... ..	...	8,248,158	7,837,948		
Texas	...	9,526,474	11,735,057		
Utah	...	186,695	1,572,306		
Wyoming	...				
West Virginia... ..	...	9,795,464	12,128,962		
Total	...	220,449,391	222,538,604		
		Percentage.			
		Increase, barrels.	Decrease, barrels.	In-crease.	De-crease.
California	...	5,316,376	—	6.55	—
Colorado	...	—	20,874	—	9.20
Illinois	...	—	2,715,730	—	8.67
Indiana	...	—	725,280	—	42.78
Kansas	...	313,977	—	24.55	42.78
Kentucky	...	11,910	—	2.52	—
Louisiana	...	—	1,456,981	—	13.59
Michigan	...	—	—	—	—
Missouri	...				
New York	...	—	78,387	—	8.23
Ohio	...	143,900	—	1.63	—
Oklahoma	...	—	4,217,180	—	7.52
Pennsylvania	...	—	410,210	—	4.97
Texas	...	2,208,583	—	23.18	—
Utah	...	1,385,611	—	742.18	—
Wyoming	...				
West Virginia	...	2,333,498	—	23.82	—
Total	...	2,089,213	—	.905	—

Record of oil and gas wells in the United States in 1912, by fields :—

Field.	Oil.	Wells completed.		Total.
		Gas.	Dry.	
Appalachian	3,931	1,016	1,077	6,024
Pennsylvania and New York	1,911	239	322	2,472
Central and South- eastern Ohio	846	411	460	1,717
West Virginia	1,062	361	243	1,657
Kentucky	112	5	61	178
Lima-Indiana	547	18	75	640
Lima, Ohio	482	14	55	551
Indiana	65	4	20	89
Illinois	980	23	257	1,262
Mid-Continent	5,786	754	1,189	7,729
Kansas	536	253	160	919
Oklahoma	4,712	438	843	5,993
Northern Texas	299	11	124	434
Caddo, La.	239	52	62	353
Gulf	412	—	134	546
Coastal Texas	353	—	109	462
Coastal Louisiana	59	—	25	84
California	776	—	71	847
Colorado	15	—	13	28
Wyoming and Utah... ..	59	—	25	84
Michigan	6	—	2	8
Miscellaneous	—	—	12	12
Total for 1912	12,512	1,811	2,855	17,178
Corresponding total for 1911	9,825	1,580	2,363	13,768
				Initial daily produc- tion (barrels).
				Average.
Appalachian	...	...	142,771	36.3
Pennsylvania and New York	...	...	6,771	3.5
Central and South-eastern Ohio	...	...	24,193	28.6
West Virginia	...	...	109,804	103.4
Kentucky	...	...	1,943	17.3
Lima-Indiana	...	...	8,312	15.2
Lima, Ohio	...	...	7,229	15.0
Indiana	...	...	1,083	16.7
Illinois	...	...	65,686	67.0
Mid-Continent	...	...	348,442	60.2
Kansas	...	...	7,245	13.5
Oklahoma	...	...	228,886	48.6
Northern Texas	...	...	28,213	94.3
Caddo, La.	...	...	84,098	351.9
Gulf	...	...	58,602	142.2
Coastal Texas	...	...	33,082	93.7
Coastal Louisiana	...	...	25,520	432.5

PETROLEUM IN MOLDAVIA.

By Mining Engineer A. GEORGIADÉ.

Reprinted from
"The - - -
Monitera du -
Petrol Romani."

(Concluded from page 37.)

THE oligocene is represented by Kliva sandstone of the upper oligocene, and especially by menelitic strata of lower oligocene.

The eocene is formed of bartonien rocks, formed of black silicious marles, of quartz sandstone, of schistous sandstone with fucoides and of whitish grainous and friable sandstone.

Among all these formations the rocks which contain the oil are the menelitic strata of the oligocene and the whitish sandstone of the upper eocene.

Owing to the fact that the valley Tazlaul Sarat follows the line of overlapping, that is to say, a line of petroleum accumulation, numerous traces of petroleum are there manifest, and that is how this district is known centuries long. Following these traces and transudations of petroleum as well as ancient and recent works we are able to state the identity of the dislocation lines with petroliferous lines, thus proving the correctness of the theory that dislocations were necessary for a petroleum accumulation.

The first line of dislocation, *i.e.*, the line of overlapping of the marginal flysch over the miocene salifere is identical with the petroliferous line, which includes the abandoned hand-dug wells along the river Argintariei and the exploitations on the Dealul Baiei of Solontz and Staneshti. The second line of dislocation, *i.e.*, the line of overlapping of the second sheet of the marginal flysch over the first one, corresponds to petroleum traces and hand-dug wells of Bratzu, as well as hand-dug wells and bored wells in the valley of Tazlaul, while the third line of dislocation, less known owing to absence of ways of communication, corresponds to the abandoned wells of Geamana, Paraul Coacazei, Paraul Taciune and Paraul Ulmi.

Explorations were carried out in this district down to a depth of 500 metres. Besides the above-mentioned numerous wells the first dislocation line at Dealul Baiei, in the Solontz Valley, was explored, in which all the wells bored exploit the menelitic strata of the oligocene and give satisfactory results.

At present the Steaua-Romana has twenty-four wells in this district in production and two wells in boring, besides numerous abandoned hand-dug wells. The Staneshti-Tazlaul Syndicate has two wells in production.

The oligocene has not yet been explored to its full depth, and it has therefore not been ascertained if it is placed on the eocene or on the antochtone salifere, as most of the strata (sheets) are oligocene-eocenic. In cases where the oligocene is placed on the eocene, it is probable that this latter is petroliferous.

The second dislocation line has been exploited by means of thirteen wells of the Steaua-Romana, situated at the foot of the Dealul Seratura. Of these wells ten are in production and three in the course of boring. Here has been exploited the first sheet (over which overlaps the second sheet) by means of boring

through the oligocene and eocene, and thus encountering the stratum of the second petroliferous oligocene. Here also the whole of the oligocenic stratum has not yet been bored through, and it could not therefore be ascertained either if it lays on the eocene or the autochthonic salifere. But by means of exploring it to the whole of its depth it is probable that the eocene will be proved as placed on top of the salifere and has all the chances of being petroliferous.

At a distance of about two kilometres to the north of this exploitation there is in the Tazlaul valley Well 1 of the Balkan Petroleum Syndicate. It is situated at the intersection of the valleys Arinishului and Tazlaul Sarat, and has at a depth of 284 metres (probably in the eocene) met gas and traces of oil.

To the south of the Steaua-Romana's exploitation, there are the hand-dug wells of Lucaceshti and two wells of the Bacau Company, the former ones having exploited the oil in the eocene, while the latter has met the oligocene of the first sheet of the marginal flysch.

The third dislocation line has not yet been exploited, owing probably to the absence of communications. The proximity of the Prahova district to the port of Constantza, which is the only seaport of Roumania, has naturally contributed to the considerably greater development of petroleum exploitation in this district to the disadvantage of the Bacau district. But the great resemblance existing between the petroliferous formations of the Bacau district (Moldavia) and those of Galicia, in Austria, as much from the technical as from the geological point of view, allows of the opinion that in the near future advantageous results will be obtained in this district. The explorations of the Steaua-Romana at Moineshti and the splendid results obtained at a depth of 900 metres, at which petroleum has been found in the oligocene of the sheet covered by the eocene of the Mont Osoiu, confirms this hope.

In comparing the results so far obtained by means of boring through the strata of eocene and oligocene in this district we can state that it has (with the only exception of limestones, hard to bore through) the following advantages:—

1. Economy in boring pipes; a well can be bored with fewer columns in view of the fact that the strata are already pressed and are not subject to pressures which are so harmful to laying pipes.
2. The subterranean waters are sufficiently far from the petroliferous strata, are not powerful at all, and are easy of isolation.
3. The petroliferous strata, being composed exclusively of porous sandstone, do not give birth to sand inundations, which are so frequent in sandy strata.

On the average three columns of pipes are used for each well in order to reach the first petroliferous strata, namely: one column of riveted pipes, a second column of hermetical pipes to close the waters off, and a third column of boring into the petroliferous stratum, and also to serve as safety column.

Although, with the exception of the Steaua-Romana's wells at Moineshti, no well in this district has yet exploited any but the surface petroliferous strata, still the yield has been quite good, especially considering the already mentioned circumstances, namely: that the boring itself is not expensive, as the shutting off waters is easy, the laying of pipes is reduced, and fuel is very cheap; besides the abundance of wood and coal (which is found in the very proximity of Comaneshti), benzine and gas motors can be used there with advantage as soon as the first gas appears.

Then the petroliferous strata being formed of porous sandstone yield a very regular and lasting production. The extraction of petroleum can be carried out very cheaply by pumping and using the jerking system in the case of several producing wells. All this applies to the surface strata. As regards the deep strata they undoubtedly will prove very rich.

The quality of the crude oil is very good. The petroleum of Zemesh-Lucaceshti has a specific gravity of 0.870, contains about 12 per cent. of benzine, 28 per cent. of kerosene and about 6 per cent. of paraffin.

The oil is being transported in barrels or is piped through the pipe-lines of the Steaua-Romana to Moineshti, and is partly treated in the small local refineries and partly goes away to the large refineries. The transport in the future will be very easy, as once the State pipe-line is ready, the whole number of tank-wagons will be disposable for this district. Besides, oil refined at Moineshti will easily be placed in Moldavia or exported to Hungary by way of Palanca, and to the East by way of the Danubian ports, Galatz and Braila.

TO DETECT PETROLIFEROUS WEALTH.

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EXPERIMENTS were recently carried out in one of the Moscow works with an apparatus invented for the purpose of discovering underground mineral wealth. This apparatus has been invented by a Russian engineer—W. O. Popoff—who has worked for a considerable time in the domain of the chemical industry and electrolysis. The principle of the apparatus is very simple. The inventor bases it on the fact that petroleum and other minerals have a different transmission capacity for electric currents than the earth. The apparatus is of small compass, and can be easily carried from place to place. In a separate box are a Rumkorf's spiral and a Brown's tube, in which are contained catode rays. These latter are influenced by an electric current produced by a dynamo worked by means of a benzine motor. The current is connected with the earth and passed into the Brown's tube, and under the influence of the current the catode rays reflected on a screen acquire a movement. Petroleum retains the electric current, and therefore the catode rays have but little movement, while coal and other minerals are better conductors than the earth, and the catode rays obtain a greater movement. A special photographic apparatus fixes the movement of the catode rays.

The experiments were carried out under various conditions. The current was passed through petroleum, coal and other minerals, and in each case the apparatus registered the nature of each mineral. The apparatus will now be submitted to extensive tests at Baku.



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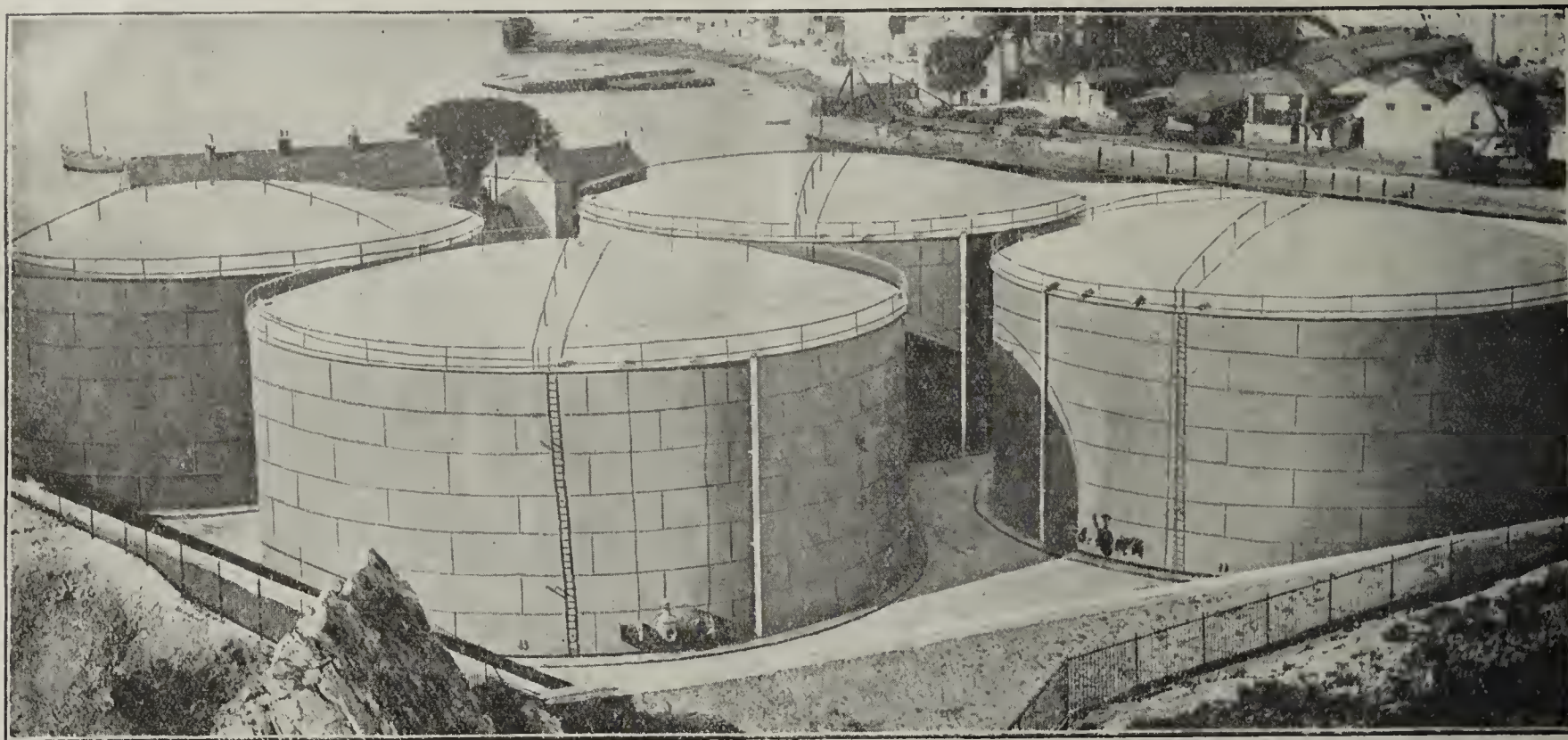
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CHIEF CONTENTS.

	PAGE
Editorial Notes	59
Production of English Companies in Russia	60
America's Petroleum Industry during 1912	61
Petroleum in Moldavia	63
Latest Quotations of Petroleum Shares	66
The Navy and Oil Fuel	69
Classified Imports	70
Notes from the Oilfields	71
The Maikop Pipeline and Transport Company, Ltd.	72
New Oil Properties, Ltd.	73
Waste in American Natural Gas Production	75
Developments in the Oilfields	77
The American Oil Market	78
Home and Foreign Market Intelligence	79
Imports of Petroleum Products	80

— THE —
PETROLEUM REVIEW,
45, St. Mary Axe, LONDON, E.C.
American Office : 111, Broadway, New York.

SATURDAY, JULY 19TH, 1913.

THE NAVY AND OIL FUEL.

THE momentous speech made on Thursday to the
House of Commons on the subject of oil fuel for
the Navy by the First Lord of the Admiralty—Mr.
Winston Churchill—could not have been delivered at a
more opportune time. Apart altogether from his
masterly treatment of the subject there were a few
points which he made clear that are bound to come as
a source of satisfaction to the nation at large, however
distasteful they may be to those who for purposes of

their own have lately been so energetic in shouting "oil scandal" from the gutter.

Ugly rumours always spread with double the rapidity of true statements, and it is not surprising therefore to find that the absolutely unfounded attacks made in very humble quarters soon became taken up by the more responsible section of the Press. As we pointed out in our issue of June 14th when touching upon the subject, we could not believe in the truth of those unsavoury rumours, and now our opinion is confirmed by the very explicit statement of Mr. Churchill. Speaking on behalf of his colleagues at the Board and himself, he said:—

We have not, and we have never had, any personal interest, direct or indirect, in the supply of oil fuel. We do not hold, and we have never held, during our tenure of office, any oil shares of any sort. We occupy a position of complete disinterestedness and impartiality in regard to all oil enterprises, oil companies, oil magnates, and oil combinations. In view of the above statement we trust that the energies of the scandal-mongers have received their fatal blow.

Upon the main subject of oil fuel, Mr. Churchill imparted much interesting information to the House, though the majority of facts enumerated by him have already been published in the REVIEW. It is clear that our Navy in future will rely to a great extent upon liquid fuel, and hence a continuous and plentiful supply which shall be available in times both of peace and war is of supreme importance. We cannot help thinking, however, that the ultimate policy of the Admiralty, as outlined by the First Lord, to become its own producer of liquid fuel, is quite unjustifiable by circumstances. One has to remember the important fact that we are living through an abnormal period at the present time, and whatever difficulties there may be at the moment in the securing of adequate supplies at reasonable prices is only a temporary drawback which will soon become a thing of the past.

At the moment the Government needs are not in excess of 200,000 tons of liquid fuel annually, and even when the present naval programme—which will call for a considerably larger quantity of liquid fuel supply—is completed, it is safe to assume that Admiralty needs will fall far short of 500,000 tons per annum. This quantity, large as it may seem, represents less than 1 per cent. of the present crude oil output of the world. Comparatively, therefore, it is a small quantity, rendered even the less significant by the fact that if

transportation facilities permitted, the crude oil production of the world to-day could, without difficulty, be increased at least by 50 per cent. We need not labour this point, for our readers are well aware of the fact that production in many of the great fields of the world is, to-day, kept at its present figure only by reason, first of the lack of demand, and secondly of transport facilities.

We can assure Mr. Churchill that he need have no misgivings as to the ability of the petroleum-producing regions to supply all necessary quantities of liquid fuel for Admiralty requirements, and therefore, though it is of great importance that our nation for its own needs should secure an adequate oil reserve, we feel that a policy which aims at petroleum production as one of the branches of State enterprise is not only unjustified but quite unnecessary.

THE BAKU RUSSIAN AND RUSSIAN PETROLEUM COMPANIES.

Increasing Production and Good Profits.

THOSE who have followed the figures of the crude oil outputs of both the Baku Russian Petroleum Company, Ltd., and the Russian Petroleum Company, Ltd., as regularly published in the REVIEW, will have noticed considerable increases in the production of both companies recently. In the case of the Baku Russian Company, the weekly output has lately steadily increased, until it is now round about 135,000 poods, with every promise of still further increasing, while in regard to the Russian Petroleum Company, after being down to a weekly output of under 80,000 poods, the bringing in of certain wells which have been closed down for some months has brought the production up to considerably over 100,000 poods weekly. We learn that in view of the fact that other wells are showing a steady increase in output, even this figure may show substantial increase as time goes on. The position of these two reconstructed companies is to-day full of promise, and it is remarkable that the Stock Exchange quotations still remain at their old and exceptionally low level. It may not be common knowledge, yet it is nevertheless a fact, that both companies are deriving the full benefit of the present high prices, and with such a good and steadily increasing production of crude oil, sold as it is at the very profitable prevailing prices, both concerns are now in the happy position of making huge profits.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO JULY 14th, 1913.

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IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since July 7.	From Jan. 1.	Since July 7.	From Jan. 1.	Since July 7.	From Jan. 1.	Since July 7.	From Jan. 1.	Since July 7.	From Jan. 1.	Since July 7.	From Jan. 1.	Since July 7.	From Jan. 1.	Since July 7.	From Jan. 1.
Belgium ..	—	—	21,260	386,783	—	—	—	—	—	—	—	120	—	4,240	21,260	402,143
Canada ..	—	—	3,040	7,040	—	23,940	—	—	—	—	—	—	—	—	3,040	30,980
Dutch Indies ..	—	—	—	—	—	—	—	—	—	19,366,990	—	24,500	—	—	—	19,391,490
Germany ..	—	127,740	37,750	2,028,220	—	—	—	107,120	—	—	—	—	—	2,400	37,750	2,265,480
Holland ..	—	—	—	7,170	—	—	—	—	—	15,000	4,138,340	—	—	590	15,000	4,146,100
Mexico ..	—	3,412,400	—	—	—	—	—	—	—	—	—	7,082,550	—	—	—	11,229,650
Roumania ..	1,429,000	11,052,767	—	—	—	—	—	1,150,000	—	1,103,000	—	7,502,140	—	—	1,429,000	20,807,907
Russia ..	1,034,000	5,339,680	1,100	7,513,470	—	238,770	—	—	—	7,924,590	—	—	—	—	1,035,100	21,016,510
U.S.A. ..	5,348,570	57,402,026	858,500	27,110,404	—	120,880	3,590,520	33,642,560	—	12,393,750	910,200	2,240,090	—	580,035	10,707,790	133,489,745
Other Countries	—	80	540	80,630	—	480	—	—	—	4,859,240	—	620	—	1,260	540	4,942,310
	7,811,570	77,334,693	922,190	37,133,717	—	384,070	3,599,520	34,899,680	15,000	50,520,610	910,200	16,850,020	—	588,525	13,249,480	217,722,315

NOTES FROM THE OILFIELDS.

AMERICAN.

A New Californian Company.—The Petroleum Gas Reduction Company of Los Angeles, California, has recently been incorporated with a capital of \$500,000.

Plugging Abandoned Wells.—Some of the counties of Kansas are complying with the new law and appointing inspectors to plug all dry and abandoned oil and gas wells. The new law imposes a heavy penalty for failure to notify an inspector when a well is to be abandoned.

Californian Consumption.—During May nearly 500,000 barrels of crude oil were drawn from the stock in the Californian field in order to meet the requirements of consumption. It is believed that as time goes on stocks will be steadily drawn upon in order to meet the ever-growing demand, unless production shows considerable increases.

Californian Oil for Eastern Markets.—It is announced that the Standard Oil Company of California will ship large quantities of petroleum products to eastern markets after the opening of the Panama Canal. With this object in view several tank steamers are in the course of construction, while the company's refinery at El Segundo will be enlarged.

Drilling Activity in California.—In view of the great increase in consumption there is much activity in drilling throughout the Californian fields, but the greatest part is in the Midway district, where 120 wells are now being drilled. The Fullerton-Brea canyon is receiving much attention on the part of operators, and 60 wells are now being drilled.

A Large Drilling Contract.—The largest contract ever given in Canada has recently been passed to the International Supply Company of Medicine Hat, for the drilling of natural gas wells to the extent of \$75,000. The price per foot, including casing, was \$5.95, and each of the nine wells to be drilled will reach a depth of over 1,000 ft., when the producing sands will be encountered.

Californian Production during May.—The output of crude oil in the Californian fields during May amounted to over 8,000,000 barrels. Of this amount 2,500,000 barrels came from 808 producing wells in the Midway Field, but the Kern River territory, with 1,663 producing wells, only produced 926,000 barrels. The Coalinga field produced 1,600,000 barrels during the month from less than 900 wells.

Conferences on Indian Oil Leases.—A number of conferences have been held recently at Washington between the officials of the Department of the Interior and representatives of the oil interests of the south-west, particularly with regard to oil leases covering 680,000 acres, the greater part of which is in the Osage Reservation of Oklahoma. No decision, however, has yet been announced.

The Cushing Pool.—The output of the Cushing Field is about 16,000 barrels daily. It is now evident that the first wells in this field which were given up as failures were not drilled deep enough, for it has now been demonstrated that a good producing sand lies at a depth of nearly 2,000 ft. There is considerable activity in the field, and the success of the tests west of the Mogul wells gives hope that a much bigger pool will be proved than was believed possible.

In the Mexican Fields.—The latest reports from the Mexican fields are of an alarming nature. Until recently operators on the oilfield have not been molested, but of late marauding bands have appeared in various oil localities in the interior and relieved those in charge of their money, valuables and horses. The Doheny interests have been compelled to shut down works on some wild-cat developments, while the East Coast Company and the Waters-Pierce interests have practically followed suit.

A New Pipe-line.—The *Oil Paint and Drug Reporter* makes the announcement that the Prairie Oil & Gas Company is to build a pipe-line from the Mid-Continent fields to the Standard Oil Company's refinery at Alton, Illinois. This refinery, which has a capacity of 20,000 barrels a day, was built in the days of the Illinois development, when the field's output was very large, and it is owing to the decreased yield from these fields that the present project to run the refinery with Kansas oil is being carried out.

Liquid Fuel in Trinidad.—With the greater activity in the development of Trinidad oilfields a considerable local demand has recently grown for the utilisation of liquid fuel. At the moment four sugar factories are exclusively burning oil, and it is hoped that in the near future the Government railways and steamers will utilise the home product rather than imported fuel. Locally-made petrol is also being used for automobiles and motor boats with excellent results, this gasoline being cheaper than the imported product.

ROUMANIAN.

Sphinx Petroleum Co.—The No. 1 well of this company at Tintea has struck the second stratum of oil at a depth of 190 metres and gives a production of 20 tons a day.

Steaua-Romana.—The production of this company during the past week amounted to 1,198 tons, in the average per day of which 630 tons were obtained at Campina and 272 tons at Policiori.

Fuel Used by the Roumanian Railways.—During the year 1911-12, the Roumanian railways have consumed 185,227 tons of crude oil, as against 156,321 tons consumed during the preceding year.

Mobilisation and the Petroleum Industry.—It is certain that the Roumanian petroleum industry will considerably suffer from the mobilisation of the army, and especially so if it comes to war.

Prohibition of Exports of Crude Oil and Residuals.—The Government has prohibited the export of crude oil and residuals, and necessary measures to the purpose have already been taken.

Petroleum Exchange at Ploeshti.—The Ploeshti Chamber of Commerce has appointed a special committee to prepare all necessary preliminaries for the formation of a special Petroleum Exchange.

The Astra-Romana.—The production of this company during June amounted to 39,650 tons, of which 29,716 tons were obtained at Stavropoleos, 6,880 tons at Bana, 2,120 tons at Campina, 776 tons at Filipeshti, 127 tons at Baicoi, and 31 tons at Glodeni.

Victoria.—This company, recently formed at Paris, has acquired the fields Petrolea and Albinitza, at Bushtenari, producing at present 100 to 120 tons a month. The company is boring two wells on a concession situated between Baicoi and Tintea.

Primal Conduct Bushtenari-Plopeni.—Out of the net profits of this firm for the closed year 90,000 francs were transferred to amortisation, 502 francs to reserve, 5,200 francs are paid out in gratuities to the staff, and 17,402 francs are transferred to the current account.

Traian Roumanian Oil Co., Ltd.—This company has now a weekly production of 500 tons. The concessions of the company consist of 672 acres situated at Campina, Baicoi, Bushtenari, Gropi, and Chiciura. There are at present nine wells in exploitation and repair, and four wells are being bored so that the production will shortly considerably increase.

Roumanian Consolidated Oilfields.—The production of this company at Bana is maintained at the daily average of 350 tons. The most productive wells are Nos. 6, 10 and 26. On the other fields the company pushes forth extensive boring work. The June production amounted to 8,936 tons, of which 8,305 tons were obtained at Bana, 770 tons at Bushtenari, and the rest at Bordeni, Campina and Tintea.

Transports.—The Administration of the Roumanian railways has stopped all loadings of goods. This measure also affects petroleum products, so that the supply of these to consumers is now stopped. The shortage will naturally affect to a larger degree the small and middle industrials who have not made sufficient provision. But the Distribution Company will do their best to alleviate as far as possible the evil.

The General Situation.—The mobilisation has not yet produced any effects on the course of the petroleum industry. At present the extraction from the producing wells and pumping from the spouting wells continues without interruption. The running of trains is interrupted owing to military transport, but as the stores of crude oil and products are now considerably reduced, owing to the large exports abroad during the preceding month, there is sufficient room on the fields for the storage of the future production. No transactions whatever are being made.

The Maikop Pipeline and Transport Company, Ltd.

A SATISFACTORY YEAR'S OPERATIONS.

THE report of the directors of the Maikop Pipeline and Transport Company, Ltd., which was submitted to the shareholders yesterday (Friday), is as under :—

The directors herewith submit balance sheet as at January 13th, 1913 (December 31st, 1912, old style), and profit and loss account for the period.

The profit and loss account shows :—Gross receipts from pumping, £57,012. 10s. 10d.; dividends and transfer fees, £11,593. 8s. 0d., making a total of £68,605. 18s. 10d. The total expenditure amounted to £33,682. 2s. 4d., leaving a balance of £34,923. 16s. 6d.; deducting the debenture interest paid, £7,879. 16s. 2d., there remains a balance available for appropriation of £27,044. 0s. 4d.

Out of this amount the directors have decided to write off preliminary expenses, debenture issue and amalgamation expenses, the sum of £4,018. 2s. 7d., and to place to depreciation account £10,000, leaving a credit balance of £13,025. 17s. 9d. This amount will be carried to the debenture sinking fund, in accordance with clause 26 of the debenture trust deed, which provided that the sum of £20,000 was to be set aside for the redemption of debentures out of the profits for 1912, if the said profits were sufficient after making provision for depreciation.

The balance to the credit of the profit and loss account, £11,122. 19s. 0d., brought forward from the previous year, it is proposed to carry forward to the current year's account.

The total quantity of crude oil received for pumping during the period was 8,072,944 poods.

The crude production of the Maikop field during the latter part of 1912 showed a considerable falling off from that of the early months of the year, and the revenue of the company was correspondingly affected.

While the present output of the field is obtained from the upper sources, a promising feature is the fact that oil has been discovered at a depth of 2,260 ft. in the Khadijinskaya district, while favourable indications have been met with in several other deep wells in different parts of the field.

Active and extensive development work is now being carried out by a large number of companies in various parts of the Maikop district, and satisfactory results are expected therefrom.

The agreement for the absorption of the Maikop Mutual Oil Transport Company, Ltd., approved by the shareholders in December last, has been duly carried out, and in accordance therewith 99,175 ordinary shares, 60,406 deferred shares, and £43,050 debentures have been allotted in purchase of that undertaking. The necessary steps have been taken for the transfer of the property into the company's name.

As stated in the circular issued to the shareholders on June 26th last, the surplus pipes in the possession of the company through the absorption of the Maikop Mutual Oil Transport Company, Ltd., have been

disposed of, realising about £63,000. Whilst this amount is under the original cost price, the directors consider that the difference is more than counter-balanced by the favourable bargain made with the Mutual Company.

In addition to the pipes which have been sold, the company has on hand a large quantity of surplus plant and machinery.

Sufficient of this stock has been set aside to enable the company to deal with several times the present crude output from Maikop, and about £20,000 worth has been transferred to Krimskaya for the construction of a pipe-line from that field.

Negotiations are now in progress for the sale of the balance of the surplus plant.

In view of the very promising results obtained on the Krimskaya field, the company, as above stated, is constructing a pipe-line of about eight miles in length to the railway. The cost of laying this line is estimated at about £6,000, and will be defrayed out of the proceeds of sale of surplus pipes. It is expected the line will be opened by the 20th of this month.

The present stock of oil on the field ready for pumping is about 150,000 poods. Six wells are already in oil or very near the oil source, operations being retarded pending the construction of additional tankage and completion of the pipe-line.

After paying for the construction of the Krimskaya line and recouping to the company the expenditure out of revenue on capital account incurred during the past year, the balance of the proceeds of the sale of pipes is to be placed at the disposal of the trustees for the debenture-holders, who have power under the trust deed to apply same in the purchase of debentures.

To date £22,757 of debentures have been purchased out of the moneys set aside to the sinking fund and from the sum realised by the sale of pipes. The amount of debentures now outstanding is therefore £215,153.

As shown by the balance sheet the company owns 24,000 shares in the Maikop Refineries, Ltd., which company is making satisfactory profits.

Considerable economies in the standing charges in connection with the working of the line were effected during the period under review, and since the beginning of the current year, a still further reduction in expenditure has been made.

Since the last general meeting of the company Mr. Otto Krishaber has retired from the board.

In accordance with the amalgamation agreement with the Maikop Mutual Oil Transport Company, Ltd., Messrs. Alfred Hicks and H. G. Trew have been appointed directors of the company, and such election is submitted for confirmation by the shareholders.

[A report of the meeting yesterday (Friday) will appear in our next issue.—ED., P.R.]

NEW OIL PROPERTIES, LTD.

ENCOURAGING PROSPECTS: DIVIDEND DECLARED.

ON Monday, the ordinary annual general meeting of New Oil Properties, Ltd., was held at the office of the company, 34, Bishopsgate, E.C., Mr. J. Annan Bryce, M.P. (the chairman), presiding.

The Secretary, Mr. R. M. Allan, F.C.I.S., read the notice convening the meeting and the report of the auditors.

The Chairman, in moving the adoption of the report and accounts, said: I would like to make the following remarks regarding the accounts. Looking first at the balance-sheet, you will see that the issued capital remains as before at £250,000. Loans against securities are £75,876. 19s. 11d., and sundry creditors £4,826. 5s. 3d. These items are shown separately this year; in previous statements they appeared under one heading of sundry creditors, and amounted together last year to £47,936. 13s. 10d., as compared with £80,703. 5s. 2d. this year. This is accounted for by increased advances which have been made for the purchase of certain securities. During the current year your company has taken interests in some new ventures, some of which are still in the form of private syndicates, which explains the increased capital in use, as shown by the balance-sheet. We believe that in time these ventures will show substantial profits, and some of them are already earning good dividends. On the credit side of the balance-sheet you will find investments at cost or under, now amounting to £328,178. 14s. 10d., as compared with £292,381 last year. At that time I stated that, for obvious reasons, the board did not think it wise to give a list of our securities; but I may mention that of the above sum £208,000 is invested in various companies belonging to what is known as the Royal Dutch-Shell group.

The market value of these particular securities at May 31st last was about £248,000. We have also investments in good industrial companies besides the Royal Dutch-Shell group, which stand in the company's books at a total of £100,000, and the market value of these at May 31st last was about £2,000 higher. It may therefore be said that the £308,000 invested by your company in the Royal-Dutch Shell companies and other first-class industrials had a market value of about £350,000 at the close of the company's financial year. In addition we have over £19,000 invested in various exploration syndicates, some of which, we hope, will be successful, although we naturally cannot make any prophecies on this point. The policy of your board is to participate in speculative undertakings to a limited extent only. I am pleased to add that, over and above our investments (which have appreciated since we purchased them by £45,000), we have secured for your company some valuable options, which at their present market price should give a further profit of from £15,000 to £16,000. The other items in the balance-sheet do not require any further mention, as they are explained in the printed copies.

The contingent liability, which amounted at May 31st last to £23,002, has since been reduced to £15,538 through payments on some of the shares which were only partly paid.

Turning to the profit and loss account, the working expenses are much the same as last year. You will, however, see that the item interest has risen from £983 to £1,640, owing to our indebtedness having increased from £48,000 to £82,000 this year. The company's indebtedness is, of course, a fluctuating item, depending on the requirements of the company from time to time. The credits in profit and loss account last year amounted to £31,910, as compared with £20,796 this year. This is accounted for by the fact that the board were obliged to write down some of the securities on account of the fall in their market value, but for which we could have realised about equal profits to last year. If any of you are disappointed that the net profit should amount to only £15,013 this year, you should remember that this profit has been arrived at after writing off the fall in the market value in securities as against their book value at the close of our last financial year, while no account is taken of the increase in the market value as against the book value on May 31st last year. This means that we are accumulating a large reserve of unrealised profits. If you ask why this company is only distributing a dividend of 6½ per cent., when it is common knowledge that the past year has been a prosperous one for the whole of the petroleum industry, I would point out that, although this company's interests are bound up with those of the petroleum industry, the profits earned by the various oil companies can only slightly affect the earnings of your company, unless there is a corresponding increase in the market value of those oil companies' shares; that is to say, as your board has laid down the policy that it should only distribute realised profits, we are only able to earn good dividends when the stock markets permit us to deal in our holdings at prices which we consider more or less in accordance with their intrinsic value. At the present moment, and all through the last financial year, the prices of our leading securities were, in our opinion, considerably lower than their intrinsic values. There was, therefore, nothing to be done but to retain most of our securities and look to our dividends from them to pay the working expenses of the company and a dividend upon your capital. It is a good proof of the soundness of the investments of your company that your dividend has been earned almost entirely by dividends on your holdings in other companies. I may summarise these remarks by stating that, leaving out of account the amounts put into purely speculative concerns, which, as I have said, are comparatively very small, your company's investments, if realised at the market price ruling on May 31st last, would show about 24s. per share of your company.

As to the prospects of the present year, I do not care

to enter upon any prophecies; but I will say that the prospects of the petroleum industry are to-day better than ever, and I believe that the present market valuations do not reflect the intrinsic merits of most of the leading shares. This is, therefore, not a time to realise securities, nor, on the other hand, in view of the general situation, to undertake fresh obligations of any importance, and the policy of the directors is to wait quietly until there is a general improvement in the political and financial position, and then energetically undertake new business whenever we consider the prospects of earning good profits are favourable. I will now conclude by proposing: "That the directors' report and accounts to May 31st, 1913, submitted to this meeting, be, and are hereby received and adopted." I shall ask Wilhelm Ritter von Ofenheim to second that resolution.

W. Ritter von Ofenheim seconded the motion, and, in the absence of questions, it was put to the meeting and carried unanimously.

The chairman next moved: "That a dividend of 1s. 3d. per share, or at the rate of $6\frac{1}{4}$ per cent., less income-tax, be paid forthwith, to shareholders registered on July 2nd, 1913."

Baron Emile B. d'Erlanger seconded the motion, which was unanimously agreed to.

The chairman also proposed the re-election of Wilhelm Ritter von Ofenheim (the retiring director). He remarked that Ritter von Ofenheim was more largely interested in the company than any other shareholder, and the business was mainly conducted by him. He was sure they could look to his great experience and ability to carry the company to a successful issue.

Baron Emile d'Erlanger seconded the motion, which was unanimously adopted without discussion.

Messrs. Deloitte, Plender, Griffiths & Co., were unanimously re-elected, on the motion of Captain Christopher, seconded by Mr. Hankey.

A vote of thanks to the chairman and directors concluded the proceedings.

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Professor:

JOHN CADMAN, M.Sc., D.Sc. (Lond.), F.G.S.

Demonstrator in Coal Mining and Lecturer in Surveying:

ALEXANDER CLUBB, B.Sc.

Demonstrator in Metal Mining and Lecturer in Economic Mineralogy:

J. L. JEFFERY, A.R.S.M.

Lecturer in Mine Rescue Work:

PERCY ORMAND, M.I.M.E.

THE SESSION COMMENCES ON OCTOBER 7th, 1913.

The School of Mining meets the requirements of those who intend to become Practising and Consultative Mining Engineers; Colliery Managers; Managers of Metal Mines; Teachers of Mining; Mine Surveyors; Land and Estate Agents; Land Owners; Owners of Collieries; and those generally interested in Mines and Quarries.

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COMMONWEALTH OIL CORPORATION, LTD.

Scheme of Arrangement and Reduction of Capital.

ON Tuesday, in the Chancery Division, Mr. Justice Warrington heard the petition of the Commonwealth Oil Corporation, Ltd., and Mr. John Westall Pearson, of the Manor House, Tunbridge Wells, for the sanction of the Court to a scheme of arrangement between the holders of the first mortgage debentures and second mortgage debenture stock issued by the company, the loan creditors and the holders of preferred and deferred ordinary shares. Mr. Gore-Brown, K.C., and Mr. Whinney appeared for the petitioners.

Mr. Gore-Brown said the company was registered in December, 1905, and the original capital was £800,000—£500,000 preferred ordinary and £300,000 deferred ordinary shares—and not more than that had been issued, but there was an increase of capital in March, 1910, to £1,200,000. The new shares were never issued; the actual issued capital was £500,000 preferred and £235,007 deferred shares. The debenture issues were as follows:—On January 3rd, 1908, £150,000 five and a-half per cent. debentures. They had a floating charge over the whole undertaking and assets of the company. In July, 1909, £400,000 six per cent. second mortgage debenture stock was created, and that gave a floating charge over all the assets. The company was to work very large shale mines in New South Wales. It had to build a railway and incur great expenditure, and it did not earn sufficient income to pay interest due on its debentures, and in December, 1911, the petitioner, Mr. Pearson, on behalf of himself and the other holders of debentures, commenced an action against the company. Mr. Whinney and Mr. Mackay were appointed receivers. A consultative committee, representing all classes of persons interested, was appointed to act in conjunction with the receivers, and a scheme had been prepared which, in effect, was that an issue of £350,000 six per cent. prior lien debentures should be created for the purpose of raising capital. They would become a first charge on all the property. The old £150,000 first mortgage debentures would remain a second charge, but the interest on them would be 6 per cent. instead of $5\frac{1}{2}$ per cent. The arrears of their interest were to be paid in cash. Then there was to be a new creation of £290,000 six per cent. income debenture stock. The second mortgage debenture stockholders were to get 60 per cent. face value of their debenture stock in the income debenture stock and were to forego arrears of interest. Creditors of the company for advances upon loans, rather less than £100,000, would get 50 per cent. of their face value in the income debenture stock. The other unsecured creditors, who were for quite a small amount, were to be paid in full. Of the unissued capital £175,000 was to be issued as preference shares as a bonus for underwriting commission to those who took up the prior lien stock. All the existing preferred and deferred ordinary shares, consisting of £1,200,000, were to be written down from £1 to 5s. per share, and the capital was to be reduced to £656,244.

His Lordship sanctioned the scheme of arrangement.

THE BRITISH AUSTRALIAN OIL COMPANY, LTD.

THE committee appointed by the extraordinary general meeting of the British Australian Oil Company, Ltd., on June 5th, 1913, recommend: (1) The abolition of the office of managing director in London; (2) the appointment of a general manager in Australia, with full power over all departments; (3) the transfer of the Australian head office of the company to the refinery at Hamilton; (4) a small office at Sydney for the purposes of the sales department only. The committee's report criticises at length the previous organisation, and, with regard to the future, says that the engineers estimate that, under capable management and with two benches of retorts working, the company should without difficulty earn profits at the rate of £120,000 per annum. Mr. Bibby, one of the directors, has put before the committee a scheme for reconstruction, on the basis of a levy of 5s. per share. He has obtained a firm offer from substantial people to guarantee the taking up of the new shares in return for a commission of 5 per cent., or 3d. per share. In the present state of the money market there appears no possibility of any alternative scheme being successful. It is a term of this offer that the management be reconstituted. This scheme will provide a net sum of about £70,000. There should then be £25,000 available for working capital, if required, and it will certainly not be necessary to call up the 5s. per share otherwise than by easy instalments.

WASTE IN AMERICAN NATURAL GAS PRODUCTION.

*An Important
Government
Paper . . .*

METHODS FOR CONSERVATION OUTLINED.

(Concluded from page 48.)

THE laws of Pennsylvania, Ohio, Indiana and California provide for the efficient capping of every gas well when not in use. There should be similar laws in all States having gas fields. If the owners emphatically refuse to close their wild wells, the Louisiana remedy can be applied; that is, empower a State commission to close the wells and levy the cost on the companies. In Louisiana the commission on the conservation of natural resources, after making an exhaustive examination of the situation in the Caddo field, recommended:

That the owners of the wild wells in the Caddo field be at once notified to take immediate steps to close the same;

That in the event of their failure or refusal to do so the State, through its engineering department, forthwith take steps to bring about control of the wells and stop waste at the expense of the owners;

That if it be found that through failure of the law or otherwise the State can compel owners to bear the expense, and in that event, the State interest is sufficient to warrant the State in going to any reasonable expense to close the wells at the public cost.

The State of Louisiana has not been called upon to close any wild wells, for the reason that all but one have been closed by the owners, and in this one the gas escapes from a shallow sand, 900 ft. above the supply which is used commercially. In March, 1912, no wells from the deep sand were running wild.

The common method of ridding a gas well of accumulated water is to blow the gas into the air for a few minutes every morning. This is an unpardonable waste of gas, since the water may be cleared out by connecting a three-quarter inch siphon water line and pump with the well.

However, where casing is used in place of tubing, a well cannot be cleared in this manner. In case a gas well connected with a siphon becomes flooded with water, the siphon can be raised a few joints and the well shut in; then the pressure of gas can be allowed to accumulate and the well siphoned off through the water line. If this process be unsuccessful at first, the three-quarter inch pipe can be repeatedly raised and the pressure allowed to accumulate until the water level is determined. When the water begins to flow, the pipe can be dropped back by stages to its original position.

Unquestionably many gas wells are lost through a failure to clean them properly. After the grains of a gas sand have become coated with paraffin or salt near the well, the only certain method of cleaning the well is by steaming.

Upon the economical utilisation of natural gas, the writers say:—

First—Although there are some lines of industry in

which gas is of very great value, as, for instance, in the development of power, the writers believe that the most valuable use of ordinary gas at the present time is as domestic fuel. The truth of this can be understood from the fact that the domestic market is practically unlimited and that domestic consumers in different parts of the country can afford to pay as high as 15 cents to \$1 per 1,000 cubic ft. for gas. The ordinary price at which gas is sold in Louisiana and Oklahoma for manufacturing purposes ranges from 1 to 4 cents per 1,000 ft. Natural gas when used in an incandescent burner is one of the best illuminants known; furthermore it is the best domestic fuel. Hence, the desirability that public-service corporations should limit the sale of gas to domestic purposes as far as possible.

Second—Mr. Oliphant has stated that the amount of gas required per hour for the development of a single horse-power varies from 9 cubic ft. with the highest type of large internal-combustion engine to 130 cubic ft. with the ordinary steam engine. This means that the efficiency of natural gas as a source of power is over fourteen times greater when used in gas engines than when burned under a boiler. The realisation of this fact and the wider application of the gas engine would stop a large proportion of waste.

Third—Although natural gas can be transported and is transported in pipe-lines for hundreds of miles, the expense of such transportation is great, and in some cases the cost of installing the plants has prevented the companies from being remunerative. Expensive high-pressure pumping plants are necessary, and there is much loss of pressure by friction and some loss of gas by leaking.

In an economic sense it is cheaper for industries to move their plant to gas fields than to take gas piped hundreds of miles. Gas is at present pumped over 100 miles, however, from one station and with a consumption of fuel not exceeding $2\frac{1}{2}$ per cent. of the gas passed through the station.

In the State of West Virginia there is no law against waste. The Louisiana law is modelled after the Indiana law, and would be effective but for the fact that the oil companies have obtained injunctions to prevent enforcement, claiming the taxation clause to be unconstitutional. The companies object to paying a tax of one-fifth of one cent. per 1,000 cubic ft. of gas produced.

In order that legislation may be effective it should have regard for the fact that producing companies, as well as consumers, have rights, and it should be enforced by conscientious public officials, who will attend to their duty. There have been many instances of foolish legislation by city councils and by state legislatures, which sought to give better service without regard to the true condition of the natural gas business and the difficulties under which the companies are working.

As an example may be mentioned an unsuccessful attempt made by the citizens of a Pennsylvania city to compel the gas company to extend its mains on certain streets. The company refused on the ground that the supply was not sufficient to warrant any further extensions and the court upheld that contention. The company claimed it had endeavoured to procure more gas, but had been unable to do so. Equally foolish legislation has been noticed in a great many cities where the councils have tried to lower the gas rates, when, as a matter of fact, they should have been increased to ensure the highest efficiency and to prolong the service for years. Whatever may be the opinion of the general public in the matter, it is a fact that the rates charged by public utility corporations for natural gas in this country are in most cases too low, rather than too high, and that the most efficient regulation can be successfully accomplished only by raising rates to such a point that consumers will not waste gas.

A part of the gas waste could undoubtedly be prevented by the use of the most improved forms of grates, burners, and mantles in domestic consumption. If natural gas for lighting be consumed with an ordinary tip, seven or eight cubic feet per hour will yield six candlepower. If a good mantle is used, $2\frac{1}{2}$ cubic feet of gas per hour will yield 50 candlepower. Assuming the cost of gas at 25 cents per 1,000 cubic feet, the cost per candlepower per hour in the former case will be 0.01146 of one cent and in the latter case 0.00125 of one cent, about one-tenth of what the cost is without the mantles.

In all communities that have the use of natural gas

the companies have endeavoured at some time to raise the rates, and the city councils have legislated for a lower rate. Although in a few cases one or the other party has surrendered without a legal battle, in others the question has gone to the courts—sometimes because of a threat of the companies to turn off the gas unless a price of their making were given. Such agitation generally comes up when the public service company applies for an extension of its charter. Although there is little doubt that the municipal legislators believe they are doing their constituents a service by forcing low rates, it must be acknowledged that all cases brought to lower the rates have met with failure, as the courts have justly upheld the companies in their attitude. Where the rates have been increased the excuse for doing so has been generally warranted by diminishing supplies or necessity of piping from more distant fields.

THE PETROLEUM TRADE OF NOVOROSSISK

Statistics for the First Quarter.

THE following table gives the petroleum imports into and the exports abroad and inland from Novorossisk during the first quarter of the year :—

		Imports. Poods.	Exports.	
			Abroad. Poods.	Inland. Poods.
Kerosene	...	552,000	263,200	701,900
Crude oil	...	1,478,300	—	—
Residuals	...	60,900	—	320,300
Benzine	...	1,755,400	1,213,600	3,600
Goudron	...	—	—	45,700
Total	...	3,846,600	1,476,800	1,071,500

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THE OUTPUT OF THE GROSNY OILFIELDS.

Statistics for the First Four Months of 1913.

THE production of petroleum on the Grosny oilfields during the first four months of the present year amounted to 24,370,285 poods, of which 1,320,630 poods were spouted oil and 23,049,655 poods were baled. During the corresponding period of 1912 these figures were, respectively, 21,613,034 poods, 8,894 poods and 21,904,140 poods. Thus, the production during the current year has increased by 2,457,251 poods, more than half of which was spouted oil. This latter was of temporary occurrence and terminated in March. Practically the whole of the spouted oil was obtained from the spouter in Well No. 114, Plot 23, belonging to the Akhverdoff Company, which broke out from a depth of 1,860 ft. and was active during January and February, yielding during this time 1,283,500 poods, and then during March and April producing 1,300,200 poods by baling.

The production of the principal firms during the period was as under :—

	Poods.
Akhverdoff Company	10,953,300
Spies Company	5,080,155
T. Wishaw	2,232,730
North Caucasian Company	1,846,500
Russian Standard	1,656,000
Anglo-Russian Maximoff Company	913,287
Maximoff Trustees	788,500
Tcheleken-Daghestan Company	586,235
Moscow Company	153,356
Caspian Black Sea Company	105,320
St. Petersburg Company	62,983
Anglo-Terski Company... ..	21,919

The number of plots in exploitation has considerably increased (from 53 to 60), so that during the year the exploitation area has increased by 7 plots, or 62½ dessiatines. The number of wells in exploitation has increased from 205 to 235 or by 14 per cent. The total number of wells has increased from 371 to 428, or by 15 per cent. Especially large is the increase in the number of wells in boring from 72 to 98, or by 36 per cent., and of bored feet, from 34,026 ft. to 51,355 ft., or by 51 per cent.

ROUMANIAN PRODUCTION DURING MAY.

THE total production of crude oil on the Roumanian fields during May amounted to 161,240 tons, as against 157,082 tons obtained during April. The production on the various fields during the month was as under :—

	Tons.
Bushtenari-Calinet-Gropi	16,067
Campina	22,160
Moreni	81,618
Tzintea	8,766
Baicoi	3,115
Bordeni	6,027
Gropi-Chiciura	2,271
Other fields	3,541
Total for Prahova district	143,565
„ Dambovitza district	3,498
„ Buzea	10,163
„ Bacau	4,014
General total	161,240

DEVELOPMENTS IN THE OILFIELDS.

LATEST REPORTS OF ENGLISH COMPANIES

Taman Peninsula.—Well No. 1—Poles broken, leaving cutter in well; fishing. Well No. 2—470 ft.; formation, grey sandy clay.

Traian Roumanian Oil Company, Ltd.—Production (week ended 12th instant), 404 tons. (Office note—Lower production due to shortage of labour.)

Maikop Pipe-Line and Transport Company, Ltd.—Received for pumping (week ended 12th instant), 73,927 poods (1,192 tons).

Standard Oil Company of Mexico, Ltd.—Report received by cable, dated July 15th, from company's manager in Mexico: "No. 2 well, 2,800 ft. deep; formation, shale."

Anglo-Roumanian Petroleum Company, Ltd.—Production for the week ended July 12th, 195 tons. Bordeni well, No. 16, drilling; No. 21, baling, cleaning cork; rest wells standing idle, owing to shortage of men.

Levanovskoe Petroleum Company, Ltd.—Production (week ended 12th instant), 7,000 poods. Well No. 1 still flowing between casing. No. 2, depth 1,736 ft., gas increasing. Well No. 3, 390 ft.

Lagunitos Oil Company, Ltd.—The general manager at Negritos states: Production (first half July), 1,300 tons. Well No. 73, 866 ft. No. 74, 540 ft. No. 75, 175 ft. Nos. 69 and 72 finished; depths, 631 ft. and 1,030 ft. Erecting rig for No. 76.

Baku Russian Petroleum Company, Ltd.—The decrease in the company's production for the past week is owing to well No. 155, plot 173, Sabuntchi, water broke in. The same is now being cemented.

Constantine Oilfields, Ltd.—The manager writes as follows:—"The boring was down to 36 metres 67 centimetres (120 ft. 3 in.) last Wednesday evening, in hard bituminous rock again after the sand and shell already reported by me."

Hungarian National Petroleum Company, Ltd.—The latest cable states that—Well No. 4—951 metres, casing 943 metres, sandy shale. Well No. 5—715 metres, casing 708 metres, sandy shale. Well No. 6—Resumed drilling Monday, 14th. Well No. 7—671 metres, casing 667 metres, grey shale. Heavy rains and floods slightly delayed work.

Roumanian Consolidated Oilfields, Ltd.—Production (week ended July 12th), 1,161 tons. (Office note—After the enforced shut down of previous week, owing to mobilisation of Roumanian Army, the work has been partially recommenced by employing old men and boys. But practically all transport has been commandeered and refinery work suspended, so that if the war continues it may be necessary to cap most of the producing wells for a time.)

Russian Petroleum Company, Ltd.—The great increase in production of 24,000 poods over the previous week is due to the wells in the south-east corner of plot 19 being gradually brought into production. The general impression of the local management regarding these wells is very favourable, and slow baling will continue until their condition is more defined. Owing to the large quantity of gas in the wells the jelonkas (baling buckets) do not come up quite full.

Tampico Oil, Ltd.—Manager reports by cable that borehole No. 7 has reached a depth of 340 ft.; formation, hard grey shale; that the drilling of borehole No. 8 will be commenced immediately after delivery of the necessary materials, and that owing to the heavy rainfall and floods it was not possible to make any deliveries of oil last month. Owing to the decrease in the production of the wells, largely due to the decreased gas pressure, the board some time ago gave instructions for the wells to be cleaned preparatory to the installation of pumping plant. The materials required were duly ordered, but owing to the delay on the railways occasioned by political disturbances in Mexico these have so far not been delivered.

The American Oil Market.

Saturday, July 5th, 1913.

DURING the current week excessive warm weather showed up work in the high-grade fields east of the Mississippi River. West of the Mississippi, however, an increase in drilling is reported, and there are more wells drilling in Kansas and Oklahoma than ever before in the history of the trade in those States. Going to the extreme West reports are not so favourable, and in the California fields operations have decreased to such an extent that many field men are now idle. Results for the week in the Eastern fields have not been commensurate with operations, as the wells drilled have been light and have not come from new producing sections. Rather discouraging reports are heard about the Cannel City field in Morgan county, Kentucky. New wells there have been small producers; this is in contrast to conditions in the western part of Kentucky, where the wells are showing an increased output.

Much importance is attached to the announcement, says the *Oil Paint and Drug Reporter*, that an 8-in. trunk-line will be laid from Carrollton, Mo., to Alton, Ill. The line will have a capacity of about 18,000 barrels a day of crude oil.

In the West Virginia fields the most promising fields are in the Weir Sand in the Big Sandy district of Kanawha county. The Blue Creek field in Kanawha county is showing a smaller average production, and the only wells which have showed any gain owe it to shooting. The Illinois fields showed a loss of two completions as compared with last week, and production has declined by 250 barrels. Reports from north-western Ohio and Indiana say that the heat was felt more this week than it has been for years, and every branch of the oil industry shows a decline because of this. The decrease is represented by 15 completions and production of 545 barrels.

The heat was also a factor in Oklahoma, where there has been a noticeable let up in development work. There has been considerable wildcatting in this section without any real results. There are a number of points about the Mid-Continent trade to indicate a steady market there.

Important developments are expected in the near future in the fields in Albert county, Canada. The oil shales at Albert Mines are also to be given more attention, and attempts will be made to extend the producing area.

Refined Products.

Prices in the local market for refined petroleum and products closed the week unchanged. Sentiment in the trade was not quite so firm as has been the case for the past few months, and business, taken as a whole, was hardly up to the average for this season of the year. It was rumoured that a New Jersey selling agency reduced the price of refined petroleum, but this

could not be affirmed or denied by New York representatives.

Export business in refined petroleum was seasonable, and business done was on the full cargo basis of 11 cents per gallon for standard white in cases. Clearances for the week were heavy, but charterings were rather slow. On Thursday the steamer "Falkniss" was engaged to load with a cargo of 7,000 barrels of refined petroleum, consigned to Bergen, prompt shipment.

Demand for naphtha from abroad was routine, in spite of the recent reduction in the price. The call was chiefly for auto grades. Stocks on hand were moderate, and this had a tendency to hold prices steady. The steady demand for naphthas in the local trade also had some influence upon the situation.

Lubricating Oils.

While prices in the market for lubricants closed the week unchanged, the undertone was firm, reflecting the steady position of raw materials. There was a steady demand from consumers locally, and export business has been holding up well for this season of the year. Paraffin grades were in special request from foreign sources. High-grade engine oils were commanding full prices, and consumption shows a good increase compared with a year ago.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. July 5.	1913. July 5.
Pennsylvania	\$1.60	\$2.50
North Lima	1.02	1.39
South Lima	0.97	1.34
Indiana	0.97	1.34
Illinois, above 30 degrees	0.85	1.30
Kansas and Oklahoma	0.68	0.88
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex	0.75	0.90
Californian, Coalinga light	0.65	0.60
" Kern River heavy	0.35	0.35
CANADIAN OIL	1.42	1.79

REFINED—FOR EXPORT.

In cents.	Week ended July 5. S.W. 110 test.	W.W. 150 test.
Bulk, New York ... per gal.	5.00	6.00
Barrels, New York, cargo	8.70	9.70
Barrels, Philadelphia	8.70	9.70
Cases, New York	11.00	12.00
Cases, Philadelphia	11.00	12.00

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000	\$11.15
1,000 to 3,000	11.25

REFINED—JOBGING LOTS.

In barrels, pkgs. included.	
130 fire test, S.W.	12
150 fire test, W.W.	12½
From tank wagons	9

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29½

TOTAL EXPORTS.

	Current week. Gallons.	Since Jan. 1, 1913. Gallons.	Since Jan. 1, 1912. Gallons.
Crude	3,428,780	78,467,419	65,703,470
Refined	21,605,140	422,660,807	435,946,238
Naphtha	826,065	62,353,940	72,654,380
Gas oil	2,892,005	24,197,110	24,567,490
Fuel oil... ..	2,228,250	54,029,160	31,687,185

WORTHINGTON & BOLER,

LIVERPOOL, LONDON & GLASGOW.

SEE ADVERTISEMENT ON BACK COVER.

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

July 18th, 1913.

Refined Petroleum remains unaltered as follows:—
Russian, 8¾d.; American, 8½d.; American Water
White, 9½d.; Roumanian, 8d.; Galician, 8¼d.

LUBRICATING OILS.

The official quotations are for:—

- No. 1 Russian, spot and forward, £12. 2s. 6d.
- American pale, from £10. 7s. 6d.
- American dark, from £12. 2s. 6d.
- American filtered cylinder, from £14. 12s. 6d.

FUEL OIL.

The current quotation is 77s. 6d. per ton, naked, in
bulk, ex wharf, and grease-making oil, 80s. per ton.

MOTOR SPIRIT

is unchanged at 1s. 9d. per gallon for the best quality,
retail, in London, and 1s. 7d. per gallon for the second
quality.

TURPENTINE.

American Turpentine is quoted for spot, 27s. 9d.;
August, 27s. 7½d.; September/December, 28s. 3d.

LIVERPOOL.

July 18th.

Petroleum oils have a good sale, and former
currencies are asked for Refined, 8¾d. being still quoted
for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the
holders of American on the spot remain steady.

INDIA.

BOMBAY, June 23rd.

The following are the current prices of the Standard
Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	4	12	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	4	8	2 "
Monkey Brand, 125 deg., American	...	4	6	2 "
Tiger Brand in tins, 125 deg., American	...	4	8	2 "
White Camelia Brand in tins, 125 deg.	...	4	0	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	0	0 "
Elephant Brand, 125 deg. (bulk without tins) ...	...	3	6	0 per 8 l. gal.
Camel Brand, 125 deg. ...	...	4	0	0 per 2 tins.

The prices of the Asiatic Petroleum Company,
Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	6 0
Rising Sun Brand, New Tins, per pair	...	4	0 0
Bull Brand, Bulk, Loose, per unit	...	3	2 0
Bull Brand, New Tins, per pair	...	3	12 0
Swan Brand, Bulk, Loose, per unit	...	3	1 0
Swan Brand, New Tins, per pair	...	3	11 0
Anchor Tins, per pair	...	4	2 0
Shell 150 deg. cases, per case	...	5	4 0
Anchor cases, per case	...	4	8 0

The following are the current prices of the Burmah
Oil Company's production:—

	Rs.	a.	p.
Ex-Godown Prices—Delivery charges extra.			
Kerosene Oil "Waterfly," per case of two tins	...	5	8 0
" Firefly, per case of two tins	...	4	10 0
" Chukker, per two tins	...	4	0 0
" " per 8 gallons	...	3	6 0
" Victoria, per two tins	...	3	11 0
" " per 8 gallons	...	3	1 0
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, July 17th.

Refined, in cases, is quoted at 11.00; Standard
White, 8.70; Credit balances, 2.50.

PHILADELPHIA, July 17th.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, July 17th.

The petroleum prices have remained firm. American
and Galician, 8.85; Russian and Roumanian, 8.85.
Motor spirit, first quality 37.00–38.00, second quality
(0.750–0.770 gravity) 32.00–33.00.

RUSSIA. BAKU, July 17th.

The petroleum market has remained firm. Crude oil
is quoted at 41 copecs per pood spot. Mazout, 39½–39¾
copecs. Kerosene, 48½–49 copecs.

ROUMANIA. July 17th.

The export of petroleum is for the moment for-
bidden, as also is the transport of products to Constanza.
The latest prices are:—

Crude oil from different fields, including	Francs.
pipe-line charges, per 100 kgs. Bushtenari	7.75–7.80
" " " Moreni	6.50–7.30
" " " Tzintea	4.25–4.75
" " " Policiori	4.50
" " " Bana	8.50
Paraffin ...	125

AUSTRIA. July 17th.

Crude oil is quoted 9.20 kronen spot. Kerosene,
33 kronen at Oderberg. Benzine, 710/720, 45 kronen;
benzine, 740/50, 34 kronen; 770/80, 22 kronen at
Oderberg. Gas oil, 8.00 kronen at Oderberg.
Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate,
E.C., report under date July 18th as under:—

The market is still depressed and prices of oil sizes
are about as follows:—

1c	18¾×14	124 sheets 110 lbs.	13/7½ to 13/9 per box.
1c	20×10	225 " 156 "	19/7½ to 19/9 "

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

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IMPORTS OF PETROLEUM PRODUCTS INTO THE UNITED KINGDOM.

Specially prepared for this Journal by the Customs House.

FOR THE WEEK ENDED JULY 14TH, 1913 (excluding any
Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIPTION.	NO. OF GALS.	PORT WHENCE.
July. LONDON—				
13/6	Lubricating & Fuel Oils Co.	Lub.	2,720	Hamburg
8	Grindley & Co. ...	"	8,000	New York
8	Anglo-American Oil Co. ...	"	18,440	"
8	"	"	448,130	"
8	"	Lamp	2,526,190	"
8	British Petroleum Co.	Gas	1,598,000	Port Arthur
8	Snowdon, Sons & Co.	Lub.	2,110	Hamburg
8	F. Chiesman & Co. ...	"	2,000	Stettin
8	A. Duckham & Co. ...	"	4,880	Antwerp
8	British and Foreign Wharf	Lub. Gr.	120	"
9	Hanseatic Maritime Agency	Lub.	300	Bremen
9	R. Park & Co. ...	"	500	Marseilles
9	W. Hodgson & Co. ...	"	110	Riga
9	J. Thompson...	"	490	"
9	J. W. Cook & Co. ...	"	6,000	New York
9	Mercantile Lighterage Co....	"	43,360	"
9	Snowdon, Sons & Co.	Lub. Gr.	2,630	"
10	Mercantile Lighterage Co....	Lub.	500	"
10	P. Brancher ...	Lub. Gr.	840	Antwerp
10	Hanseatic Maritime Agency	Lub.	60	Bremen
10	E. G. Boize ...	Lub. Oil and Gr.	540	Hamburg
10	Schliemann Oil, etc., Co. ...	"	3,070	"
10	Anglo-American Oil Co. ...	Gas	1,317,520	Philadel.
12	"	Fuel	910,200	Baton Rouge
12	F. Chiesman & Co. ...	Lub.	6,000	New York
12	R. T. Lucas & Co. ...	Lub. Gr.	760	"
12	British Petroleum Co.	Lamp	1,034,000	Batoum
12	Port Authority ...	Lub.	5,280	Hamburg
14	E. G. Boize ...	Lub. Oil and Gr.	160	"
14	Hanseatic Maritime Agency	Lub.	400	Bremen
14	P. Brancher ...	Lub. Gr.	100	Antwerp
14	A. Duckham & Co. ...	Lub.	40	"
14	Leach & Co. ...	"	360	Ghent
14	J. Thompson...	"	500	Riga
14	Produce Brokers Co.	"	7,800	Baltimore
LIVERPOOL—				
8	Huxley & Co. ...	"	1,090	New York
8	Meade-King, Robinson & Co.	"	2,450	Hamburg
8	Anglo-American Oil Co. ...	"	12,000	New York
9	"	"	20,000	"
9	Vacuum Oil Co. ...	"	240	Philadel.
9	"	"	4,000	New York
9	J. T. Fletcher & Co. ...	"	360	Antwerp
10	Liverpool Storage Co.	"	900	Hamburg
10	A. Hopps & Sons ...	"	7,800	Baltimore
10	Burnaby & Chantrell	Lub. Gr.	2,740	"
10	Pickford's ...	Lub.	2,600	"
12	Crew, Levick & Co. ...	"	36,430	"
14	E. Harrison, Ltd. ...	"	7,200	"
14	Meade-King, Robinson & Co.	"	36,200	"
14	G. B. Taylor ...	"	600	New York
14	Vacuum Oil Co. ...	"	41,100	"
14	"	Lub. Gr.	80	"
14	Anglo-American Oil Co.	Lub.	46,200	"
BARROW—				
14	Anglo-American Oil Co.	Lamp	637,690	Sabine
BRISTOL—				
8	Canadian Pacific ...	Lub.	3,040	Montreal
8	W. G. Clarke ...	"	480	Antwerp

DATE.	PORT AND IMPORTERS.	DESCRIPTION.	NO. OF GALS.	PORT WHENCE.
July. BRISTOL—				
8	Anglo-Bosphorus Oil Co. ...	Lub. Gr.	240	Hamburg
8	"	Lub.	1,640	New York
8	"	"	1,640	"
8	Ford & Canning ...	Lub. Gr.	3,100	"
8	J. & R. Bush ...	Lub.	23,400	"
9	Anglo-Bosphorus Oil Co.	Lub. Gr.	270	Antwerp
9	E. Stock & Sons ...	Lub.	2,000	Hamburg
12	British Petroleum Co.	Lamp	1,547,000	Port Arthur
12	"	Gas	675,000	"
GOOLE—				
5	Goole Steamship Co.	Lub.	60	Hamburg
11	"	"	130	"
GRIMSBY—				
7	J. Sutcliffe & Son ...	"	610	Antwerp
HARWICH—				
3	Great Eastern Railway	"	60	Hamburg
3	"	"	200	Antwerp
3	"	"	40	"
8	"	"	440	"
12	"	"	40	"
14	"	"	320	"
14	"	"	2,400	Hamburg
HULL—				
7	Wilson's & N. E. Railway	"	3,280	Antwerp
9	British Petroleum Co.	Lamp	1,429,000	Kustendje
9	T. Wilson, Sons & Co.	Lub.	3,640	New York
10	W. Gilyott & Co. ...	"	41,600	"
10	Wilson's & N. E. Railway	"	80	Ghent
10	"	"	2,000	Hamburg
MANCHESTER—				
8	D. Currie & Co. ...	"	460	"
8	Pickford's ...	"	50	"
9	Fletcher, Woodhill & Co.	"	40	Treport
10	J. T. Fletcher & Co.	Lub. Gr.	200	Antwerp
NEWCASTLE—				
9	Tyne-Tees Steamship Co.	Lub.	840	"
9	"	"	5,480	Hamburg
SWANSEA—				
8	Bristol Steam Navig. Co.	"	240	Antwerp
ABERDEEN—				
10	W. T. Moffatt ...	Spirit	15,000	Rotterdam
GLASGOW—				
8	Clyde Shipping Co.	Lub.	7,520	Antwerp
10	Anchor Line ...	Lub. Gr.	1,760	New York
14	"	Lub. Oil and Gr.	21,820	"
GRANGEMOUTH—				
6	Jas. Currie & Co. ...	Lub.	3,920	Hamburg
LEITH—				
11	Jas. Currie & Co. ...	"	960	"
BELFAST—				
12	Anglo-American Oil Co.	Lamp	637,690	Sabine
			13,249,480	

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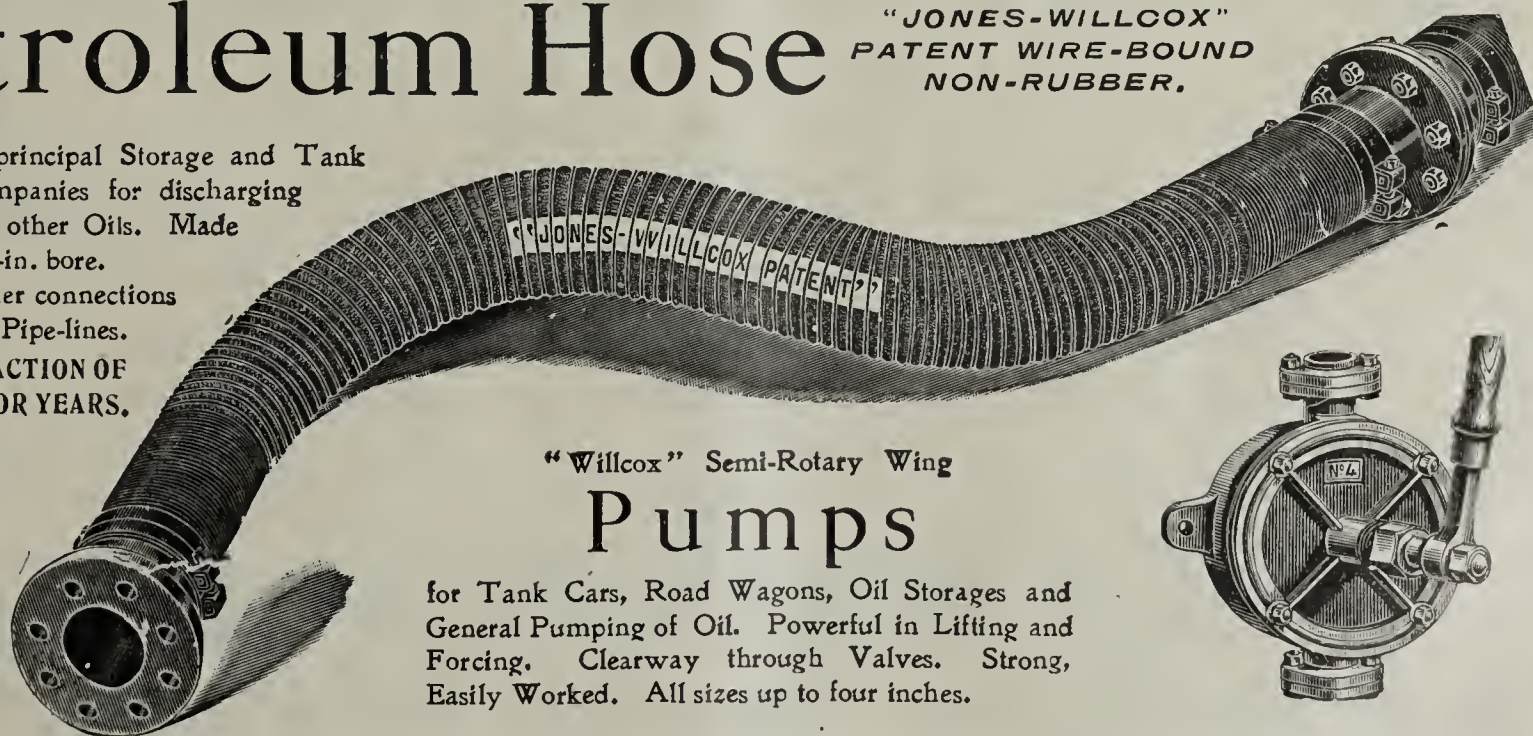
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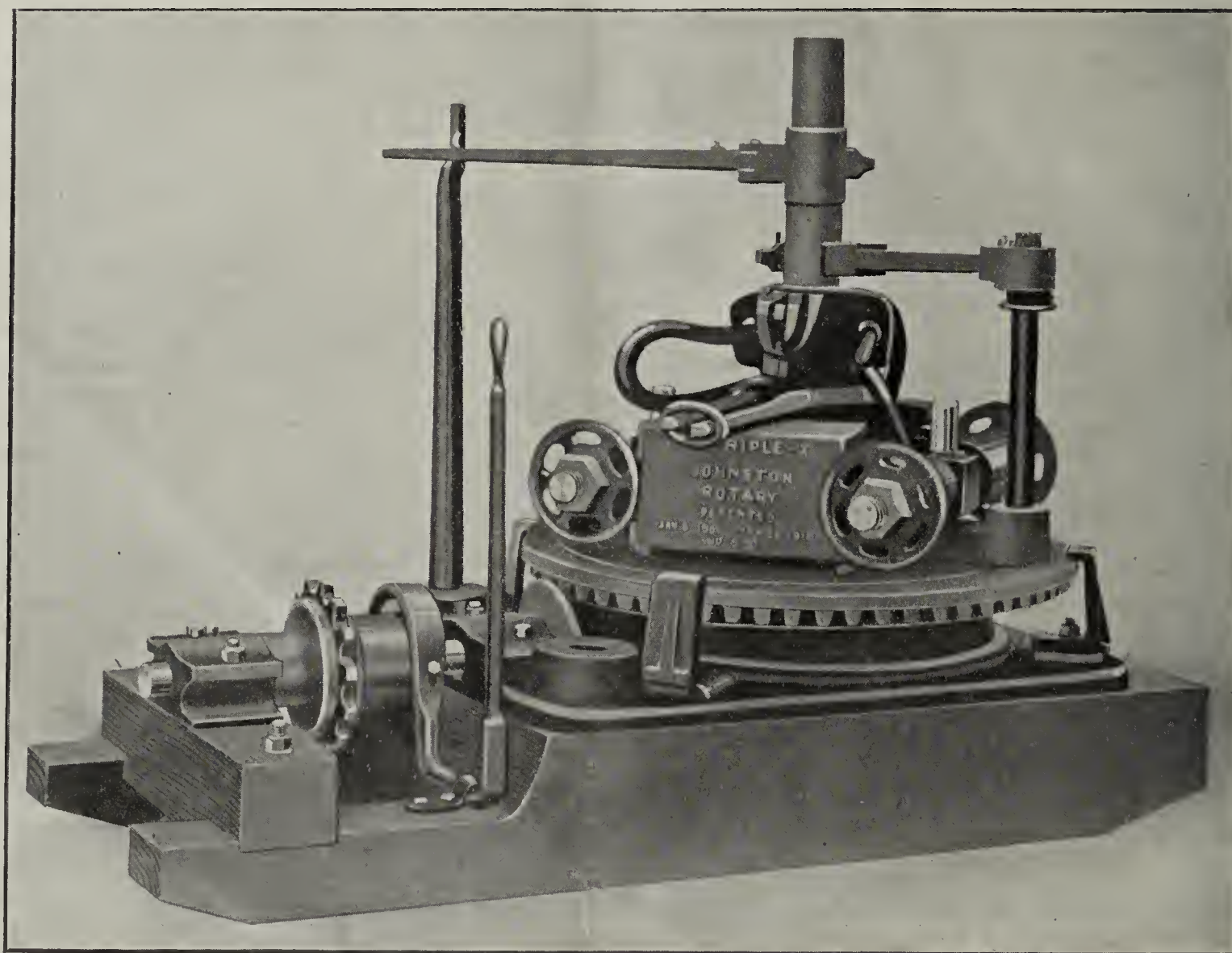
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Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

The Admiralty and its Oil Fuel Needs.

ALTHOUGH the speech of the First Lord of the Admiralty in the House of Commons last week, a verbatim report of which appears in this issue, has directed general attention to the importance of the liquid fuel question,

opinion appears to be against the suggestion contained in the speech as to the intention of the Government to ultimately secure its own supplies by becoming a producer itself. There are, we know, certain channels of trade into which the Government may legitimately engage itself, but we have already put forward our opinion that, in the case of petroleum production, it would be in the highest degree injudicious for the State to secure control of and operate oil-producing territory. When the present abnormal times have been lived through, the Government will find no difficulty in securing all the supplies it needs; in fact, even to-day it is finding not the least difficulty in the fulfilment of its several contracts for liquid fuel supplies. It is self evident, therefore, that those at the head of Admiralty affairs need have no misgivings as to the securing of ample supplies for Government needs without going to the unjustifiable length of becoming oil producers.

Germany and its Suggested Petroleum Monopoly.

THE REVIEW learns from semi-official sources that the discussion in the Reichstag upon the proposed German petroleum monopoly Bill will not take place until late in the present year. Even then, we learn, there will be

much opposition to the proposal, which, at the best, has very poor chances of becoming law. Meanwhile the German branch of the Standard Oil Company—the Deutsche-Amerikanische Petroleum Actien-Gesell-

schaft—whose great power in Germany would be at once destroyed under the monopoly proposal, appears to feel no apprehension as to the future. After increasing its tank installations last year, and expending great sums for this purpose, it is now directing its attention to increasing the capacity of its ocean fleet, one of the new vessels already having been launched, while others are in course of construction. Thus, whatever may be the opinion of those responsible for the framing of the present monopolistic measure, it is clear that in those quarters which should be most concerned, not the slightest alarm is felt.

The Balkan Trouble: The Effect of Roumanian Mobilisation.

IT is easy to appreciate the fact that the mobilisation in Roumania in connection with the Balkan trouble has had a considerable influence upon the country's petroleum industry.

In the first place, a large number of employees have been called out, and this circumstance has naturally seriously hindered operations on the oil-fields. However, it is gratifying to record the fact that, after certain re-arrangements, the various companies have been able to continue exploitation although almost all boring work has had to be temporarily discontinued. Work at the refineries has also had to be restricted in view of the fact that transport by rail is stopped. Contrary to the general impression, the export of petroleum products has not been prohibited, and, taken all round, the petroleum industry is not suffering such great drawbacks as might in the circumstances be expected.

The Trend of Californian Production and Consumption.

DURING the first half of the present year the Californian oil-fields produced more crude oil than at any previous period of their history, for the six months' output was over 47,000,000 barrels. These figures are about

1,000,000 barrels advance upon the output for the corresponding period of 1912, and would have been even greater but for the fact that, until quite recently, there has not been the usual amount of activity in the fields. Operators are now commencing to recognise that the consuming markets are broadening ahead of production, for great as the crude oil output this year so far has been, stocks have had to be drawn upon to an appreciable extent. With this steady advance upon the accumulated stocks, the outlook for the oil producer is to-day more hopeful than it has been for several years past. Any substantial reduction in the quotations is out of the question for some time to come, consequently operators are steadily settling down to an active drilling campaign.

INDISPOSITION OF SIR BOVERTON REDWOOD.

OUR readers will be interested to learn that Sir Boverton Redwood, Bart., who has not been in anything approaching good health of late, left London during the present week for a holiday in Norway. Sir Boverton has had an exceptionally busy time of late, and particularly so on account of the frequent sittings of the Oil Fuel Commission. Chatting with Sir Boverton on Tuesday the REVIEW learnt that upon one recent occasion, when his presence was necessary before the Oil Fuel Commission, he had actually to be carried into the committee room on an invalid chair.

We are certain our readers will join us in wishing him speedy return to good health.

SERIOUS ACCIDENT TO THE "MUREX" OIL TANKER.

THE oil tanker "Murex," while steaming from Sydney to Balek Pappan last week, went ashore near Macassar. The tanker is reported to be in a critical position, and considerably damaged, the forepart and 'midships resting upon the rocks. According to the latest reports, an unsuccessful attempt has been made to refloat the tanker. The weather is very unfavourable, a heavy sea running.

The "Murex" is one of the old class of tankers with over twenty years' service to her credit. She was built by Messrs. Gray & Co., at West Hartlepool, and has a gross tonnage of 3,564. She is one of the "Shell" fleet.

Messrs. W. H. WILLCOX & CO.'S NEW CATALOGUE.

MESSRS. W. H. WILLCOX & CO., LTD., 38, Southwark Street, London, S.E., have recently issued a new catalogue, which, for both volume and the wealth of interesting matter contained therein would be difficult to excel. The name of Messrs. W. H. Willcox is too well-known to need lengthy comment here: the firm ranks as the foremost house associated with the petroleum industry for engineers' stores, but in addition as lubricating oil merchants, Messrs. Willcox occupy a very enviable position. The new catalogue consists of over 700 pages, is illustrated in a prolific manner, and neatly bound, forming a regular encyclopædia for the oilfield manager. We trust that the enormous cost of the present production may reap the benefit which the firm so richly deserves.

MR. J. H. SKILTON, the London Manager of the J. F. Lucey Co., left London this week for a business tour in the United States.

MR. A. W. GILLESPIE, who for the past ten years has been engaged in the petroleum industry in the Caucasus, has recently returned to London in order to join the firm of Messrs. Gillespie & Co., 2, Whittington Avenue, E.C., the well-known oilfield engineers and suppliers of oil-well boring machinery.

We understand that with the additional advantage of the practical experience gained on the oilfields by Mr. A. W. Gillespie, the firm contemplate extensive and early development of their business relations throughout the Russian fields with their Johnston rotary machine and general oil-well supplies.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended July 19th was 102,000 poods.

SPIES PETROLEUM COMPANY, LTD.—Production, week ended July 20th, including 3,865 poods from ambars, was 255,205 poods, or about 4,116 tons. The total production for the year, from Jan. 14th to July 20th, was 7,752,620 poods, or about 125,042 tons. The total production for the corresponding period last year was 8,953,650 poods, or about 144,414 tons. Price of crude oil at Baku, 43 $\frac{3}{4}$ copecs per pood.

THE MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended July 19th was 11,808 poods (190 tons).

THE EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended July 20th was 100,100 poods, or 1,614 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended July 19th was 131,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended July 19th was 31,677 poods (511 tons).

THE MAIKOP SPIES COMPANY, LTD.—The production of this company for the week ended July 20th was 10,345 poods, or about 167 tons.

MAIKOP NEW PRODUCERS, LTD.—Production for week ended July 19th was 8,800 poods, or 142 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended July 20th was 16,748 poods, or 266 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended July 10th, 111,180 poods or 1,793 tons.

THE NORTH CAUCASIAN OIL FIELDS, LTD.—Production for the week ended July 22nd was 141,000 poods, or 2,274 tons. Corresponding period last year, 553 tons. Total production to date for this year, 50,011 tons, last year 14,799 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended July 20th was 81,967 poods, or 1,322 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended July 19th was 4,800 poods.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended July 19th was 4,692 poods.

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended July 19th was 3,015 poods (49 tons).

CHELEKEN OILFIELDS, LTD.—Estimated production for fortnight ended July 19th, 2,015 tons.

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OIL FUEL FOR THE NAVY. IMPORTANT SPEECH BY THE FIRST LORD OF THE ADMIRALTY.

THE GOVERNMENT AND OILFIELD CONTROL.

(Verbatim Report.)

IN the House of Commons on Thursday week, Mr. Winston Churchill, the First Lord of the Admiralty, delivered a momentous speech on the subject of oil fuel for the Admiralty. He said:—

There are several questions which may be advantageously discussed on the present occasion, and of these I understand that the one which holds the first place in the public attention is the engaging topic of oil fuel. So it is to that I will first address myself. I hope the House will believe I will do my best to give all the information in my power.

In the year 1909 the first flotilla of ocean-going destroyers wholly dependent on oil was created, and each successive year since then another flotilla of oil only destroyers has been built.

There are now built and building more than 100 destroyers, including coastal destroyers, solely dependent on oil fuel.

Similarly, during the last five years oil has been employed in coal-burning battleships and cruisers, to enable them to realise their full power in an emergency.

At the time when I became responsible for Admiralty administration, in the autumn of 1911, there were more than 150 vessels built and building which were dependent wholly or partly on oil. Provision had been made from year to year, both for the storage of oil, and for current expenditure, and for building up an oil-fuel reserve, which, of course, increases with and in proportion to the number of vessels added to the Fleet.

One of my earliest inquiries at the Admiralty, in November, 1911, was directed to the position of the oil supply of the Fleet. I found that no difficulty had been experienced in buying all the oil needed. The supply, storage, and distribution had not presented any serious difficulties other than the transport of oil. The price of oil was then—that was less than two years ago—practically equal to that of coal, after making due allowance for reduced stokeage and increased energy of the fuel, ton for ton. In short, our partial reliance on oil fuel was already established as a policy, and its development was being actively and prosperously pursued, under conditions favourable alike to economy and the efficiency of the Naval Service. On previous occasions I have referred to the advantages of using oil fuel in ships of war.

There is no doubt that with otherwise similar warships the one that burns oil possesses a large excess of speed over that which burns only coal, and even over that which burns coal and oil.

The radius of action of a ship of war when using oil instead of coal is increased, I am informed, by nearly 40 per cent. for the same weight of fuel. Moreover, oil can be stored in some places in ships from which it would be quite impracticable to bring coal to the furnace, with the consequence that the radius of action has been still further increased. Oil bunkers can be replenished with great rapidity and without interference with the fighting efficiency of the ship, and a few men suffice for the work.

On the other hand, the operation of re-coaling is laborious and lengthy.

It necessitates the exertions of the whole of the crew, with the result that the men are physically exhausted, and the ship is for the time rendered unfit to fight. The use of oil is also attended by the saving of a large amount of labour involved in coal trimming and stoking, as well as in the removal of ashes, clinkers, and soot, when coal is burned. This enables a very large reduction of stokehold personnel to be made.

Oil gives the very great advantage compared with coal of admitting of rapid increase of steam production, and enables variations of steam pressure, due to the necessity for cleaning coal-burning furnaces, to be eliminated. In a coal-burning ship, after part of the coal has been used, the ship cannot attain her full power without throwing a great strain on the personnel,

who have to be brought from other stations to trim the coal from remote or inconveniently placed bunkers, whereas oil is delivered to the furnaces with continuous facility till the whole has been consumed. The use of oil fuel instead of coal makes it possible in every type of war vessel to produce a ship which will fulfil given conditions of speed and armament of lesser dimensions, and consequently at smaller cost than could be done with coal. But, further than this, the great advantages which liquid fuel presents in solving the problems of our naval design make it possible to obtain vessels of very high speed compared with their dimensions—of a speed, that is to say, compared with their dimensions which could never be attained if coal remained the only fuel.

All these advantages attendant on the use of oil can be reaped by every other nation, which chooses to employ it. But, as I explained last March, there is one great special advantage which oil confers on the British fleet which would not be enjoyed by any weaker naval Power. I mean the special advantage to the strongest nation of not being forced to leave its fighting position in order to re-fuel. It may be assumed that the weaker navy will bide its opportunity in port while the stronger must keep the sea continuously. Re-coaling, therefore, means a continued strain on the stronger fleet without any corresponding deduction from the weaker. Oil, which can be fed so easily from one vessel to another, would, therefore, add an appreciable percentage to the relative fighting strength of the British Navy without any corresponding discount in other directions. So much for the general advantages of oil fuel.

During the winter of the financial year 1911-12 the Admiralty addressed itself to a general reconsideration of naval types, with the result that it was decided to lay down a division of fast battleships and of battle cruisers. A very fast light cruiser was designed, and eight of them were included in the programme for the year. The regular destroyer programme was continued, the vessels being increased in speed. Everything that has since occurred has justified the view then taken of the proper evolution of naval construction. Fast battleships armed with 15 in. guns seem likely to be imitated, though at a considerable interval, by our principal competitors, and these vessels, together with the light-armed cruisers, command a very wide and general assent through the higher ranks of the Navy.

There is no reason to doubt that in both these departures we have successfully maintained that leadership and superiority of material which can be traced throughout the whole naval history of the last twenty-five years from the Royal Sovereigns and King Edwards through the Dreadnoughts, down to the super-Dreadnoughts with 13.5 in. guns, and on to the present day.

Both of the new types of battleships and cruisers were conceived in relation to the practical needs of the kind of war and of battle we are most likely to fight. The speed of the fast battleship division bears a certain relation to the speed of the various divisions of foreign fleets as they will be in the next five or six years. The fast light cruisers are an essential part of our tactical construction.

Neither of these vessels could have been satisfactorily constructed on a coal-burning basis. It was not possible to give the fast battleships the necessary speed, having regard to all their other qualities, on a coal basis without inflicting extraordinary hardships upon the personnel and sensibly increasing the length, and consequently the cost, of those vessels, which is already greater than that of any other vessels built. To increase the length and the present dimensions would have raised the whole docking problem in a new and most formidable shape, and it was therefore desirable to make those four ships what may be called "oil" ships only. The gift of the *Malaya* increases their number to five. The light-armed cruisers simply could not be constructed on a coal-burning basis. They would

either have to be greatly increased in length and displacement, in which case they would become too expensive for the number required and the service required, or else they would lose from three to four knots of speed, and consequently be unfit for the tactical duties for which they were designed. Without the use of oil, and oil only, this excellent type would have been permanently denied us. Oil has been used for some time as the only fuel for the new flotilla of destroyers. The increasing speed of these vessels renders them all the more dependent on its use. The coal-burning destroyer does not bear comparison in speed with the oil destroyer of similar size and cost.

In this branch of construction cost as well as size are great factors. The destroyers can scarcely advance beyond their present dimensions without merging into cruisers and becoming altogether too expensive for the work they have to do.

It will be seen, therefore, that we are building to use oil for almost the whole field of the new construction programme of 1912-13.

These conditions and the reasons which produced them are, with one important exception, repeated in the present year 1913-14. There are another eight light cruisers, and sixteen destroyers instead of twenty, but these sixteen are all of superior speed and power; and for both these types oil must be used, or they could not be built to discharge their tactical purposes. The five battleships this year are, however, to be coal-burners, using oil as an auxiliary only.

Why has this been possible? The following is the reason: Oil is only required in big ships when exceptional speed has to be reached by a vessel of exceptional quality. The ordinary speed can be effectively realised with coal as the main motive power. The fast division of battleships for 1912-13 consisted of vessels of exceptional speed, and therefore required oil. Speed is only relative, and if the general speed of the line of battle were raised till it was equal to that of the fast division, the fast division would *ipso facto* fall back into the ordinary category. We had, therefore, no intention of raising the ordinary average speed of the line of battle, which remains at the maximum of twenty to twenty-one knots, and coal will continue to be the main basis of motive power in the line of battle for the present.

This year we revert to building ships of normal speed for the ordinary service of the line. It is, therefore, possible to use coal as the main motive power, and this must be admitted to be convenient in view of the very high price now ruling for oil. If I have appeared to go rather freely into these subjects it is because I have ascertained that the material facts are already known elsewhere.

I come next to the supply of oil fuel. But before I do so let me deal with the military aspect and the question of contraband. Our power to obtain additional supplies of oil fuel in time of war in excess of the store in this country depends upon our preserving command of the sea. If that is in danger, oil is not the only commodity which will be excluded from these islands. If we cannot get oil we cannot get corn, cotton, and a thousand and one commodities necessary for the preservation of the economic energies of Great Britain. If we are unable to bring in the comparatively small number of vessels which would be required to maintain a full supply of oil for our fleets in time of war, we should certainly be unable to conduct, as we hope to conduct, the whole vast oversea trade of this country, export as well as import, in spite of the utmost exertions of the enemy. There are some very clever people who have pointed out that oil is different from any other class of supply, because it will be in part the means by which the initial command of the sea will be maintained. That is quite correct. It is not upon the oil-burning ships that we mainly depend, or are likely to depend for many years, for the protection of trade routes. That protection is maintained by coal-burning cruisers, operating along the trade routes, while the enemy's main battle fleet is being dealt with in the decisive theatre, wherever that may be.

We are told that our supply of oil fuel would be stopped in war time as being contraband. A great many people suppose that in order to stop any article reaching this country in time of war, a foreign country has only to declare it contraband. This point has received the attention of the Admiralty. The enemy might, and probably would, declare oil fuel contraband. The effect of that upon our arrangements would be very small.

Almost all our oil is arranged to be imported in British tanks, which are liable to be captured by the enemy, whether carrying contraband or not. These vessels would have to depend upon arrangements made for the protection of sea-borne commerce, and that forms one of the most important items in our war plans. It is upon our command of the sea and our power to bring British vessels carrying commodities of all kinds that we must rely for the maintenance of our strength in time of war.

We might, of course, attempt to reduce the risks to British vessels carrying oil by employing tanks of foreign countries, if such a course were possible. But in view of the limited number of such vessels, and their full and constant employment on other services, this course might be difficult, or even impossible. Therefore, we do not attach great importance to it. The fact of oil being contraband is not likely to cause foreign neutral Governments or companies voluntarily to prohibit the export of oil to this country. Such a course would be opposed to general international procedure, and to their own interests, and there is no rule of international law, or any obligation on the part of a neutral Government to prohibit exports for manufacture in this country, except arms and war vessels, to a friendly country during war. That is the principle upon which we have always acted with considerable effect. If one of the many countries from whom we obtain our supplies should be forced by the pressure of one of the belligerents to prohibit the export to this country, we should for a time be deprived of that source of supply. That is to be met by widening and multiplying as much as possible the sources from which we draw our oil supplies. Surveying the whole position, my advisers are of opinion that although some loss by the enemy's acts may be anticipated, no serious effect on our naval movements need be feared from that cause in war time, if our resources are maintained in peace, and as long as British command of the sea, on which all else depends, is effectually maintained.

Now I come to the quantities of oil, the resources of oil, which are at our disposal in the world. There is plenty of oil in the world. The total output of crude oil last year was nearly 50,000,000 tons. The total consumption of the Navy last year was less than 200,000 tons. So we are, or soon shall be, able to draw oil from Burmah, California, Persia, Texas, Roumania, Borneo, Egypt, Mexico, and Trinidad. The prospect of further development or discoveries of natural oilfields is very extensive. The high prices now prevailing are calling from the world a very remarkable response. Apart from these natural supplies of oil which have been summed up in the form of "oil below the ground," there are the processes of manufacturing oil from other substances, which are numerous, important, and rapidly increasing. The most promising feature which the ceaseless investigation of the last eighteen months or two years has revealed is the great potentialities of the home supply. It is calculated that Scottish shales alone, if developed to their fullest capacity, would yield between 400,000 and 500,000 tons for 150 years. The immense deposits of Kimmeridge clay containing oil-bearing strata or seams stretch across England from Dorsetshire to Lincolnshire. There are extensive shale beds in Nova Scotia and New Brunswick. There are many other possibilities, such as coal oil and creosote, on which I need not dwell at this moment. It would be foolish to suppose that the wealth of Great Britain cannot command from the vast oil resources of the world the comparatively modest supply which even at its maximum the Navy will require.

The problem is not one of quantity. The problem is one of price; and here we enter a field of operations full of intricate and novel features, in which a Government Department will require in a special degree the confidence and support of the House if it is to make sure of thrifty and judicious arrangements in the public interest. The first and greatest of all new features in the oil market in the last two years has been the great upward movement of prices. Oil which in 1911-12 could practically compete on favourable terms with coal is now almost double in cost. At the same time, owing to a temporary scarcity of oil transports, freight has risen by 60 per cent. or 70 per cent. The cause of this is the growing demand for oil fuel on account of its many advantages. This demand, coupled with that for petrol, has given rise to the vast and formidable schemes on the part of a comparatively small number of wealthy combinations to control the oil market and raise and maintain prices.

It must be admitted, however, that to a very large extent the causes which raise prices and create stringency are natural and automatic. Many private businesses, when they lay down an oil ship, or build an oil engine, have been making long forward contracts for the supply of the necessary fuel. In certain cases companies selling engines sell guarantees to supply oil during some years of the anticipated lifetime of the engine. The consequence is that the oil market in future years is going to be greatly divided up and pegged out among different consumers, all of whom are taking steps to protect themselves against artificial manipulation, for which the state of the market at the present time offers so profitable a field. In other countries, whose navies are adopting oil fuel, similar measures are being, or are about to be, taken.

We have ourselves taken certain steps to protect our interests with regard to Colonial leases in oil-producing colonies of the British Empire; but, speaking generally, the British Admiralty has so far adhered to the system of annual contracts, which is enjoined by our regular departmental practice, and so far we have found them quite satisfactory—so far, but no farther. Hitherto we have been in a position to make our own terms. We have selected with almost fastidious discrimination exactly the kind of oil that suited us best, irrespective of whether it was particularly convenient to refiners to make it or not, and irrespective of whether it was particularly abundant or not. And we have bought it, both for consumption and for reserve, as we require, from year to year and from month to month, according to the strictest rules of financial correctitude in what might without special imagination strictly be called the open market. Those conditions are done. The quantities of oil we shall require have increased beyond the modest limits which can be filled by occasional annual purchases. The kind of oil we prefer is no longer the kind which suits refiners to make, which it pays them best to make. The open market is become an open mockery. Our stake in oil-burning ships is becoming so important that we must have the certainty of being able to buy a steady supply at a steady price. Not to take the proper steps in time would mean we should gradually get into the position of being forced purchasers. We should be grossly overcharged. It does not mean we should not get the oil at a certain price at which there is nobody else to buy it. It does not mean we should not get the oil—let that be dismissed from everyone's mind. It would mean, however, that we should be made to pay an excessive price for it.

I have only unfolded the general outline of the problem to the committee. What is our policy towards it? It is a two-fold policy. There is an ultimate policy and there is an interim policy. Our ultimate policy is that the Admiralty should become the independent owner and producer of its own supplies of liquid fuel, first by building up an oil reserve in this country sufficient to make us safe in war and able to override price fluctuations in time of peace; secondly, by acquiring the power to deal in crude oils as they come cheaply into the market.

When a new field is developed and those who are producing it have exhausted their original capital, and have not yet opened up new lines of consumption and customers, there are opportunities of purchasing large quantities of oil, if the means of storage and transport are available, at prices which bear no relation to what that same oil will afterwards be sold at when the field is firmly established, and when its customers and markets are clearly marked out. This second aspect of our ultimate policy involves the Admiralty being able to retort, refine, stock, top—top means driving lighter products off by evaporation—or distilling crude oil of various kinds until it reaches the quality required for naval use. This leads us to dispose of the surplus products—another great problem—but I do not myself see any reason why we should shrink, if necessary, from entering this field of State enterprise. We are already making our own cordite, which is a most complex and difficult operation. We already keep the great system of the dockyards in full activity in order to provide a check on private constructors, and I see no reason, nor do my advisers, why we should shrink from making this further extension of the vast and various businesses of the Admiralty. The third aspect of the ultimate policy is that we must become the owners, or at any rate the controllers, at the source, of at least a portion of the supply of natural oil which we require. On all those lines we are advancing rapidly, and we are moving towards that position of independence out-

side the oil market, which it is our ultimate policy to secure, and which we are quite strong enough, with the power of this country, to secure against any combination, and which must be secured before any fundamental change is made in the main coal-burning basis of the fleet. I come to the interim policy which is required for the building up of the oil fuel reserves, and for the period while the complicated administrative, scientific, and financial questions involved in the ultimate policy are being settled.

The interim policy consists in making at once a series of forward contracts, for about five years, with a certain power of renewal, to secure a regular and an adequate supply during this immediately future period at reasonable and steady prices. It is the need of concluding promptly this series of forward contracts now being prepared which is the principal and immediate reason which leads me to open this subject so fully to the committee to-day. I have one difficulty in presenting my case satisfactorily to the committee, and it is that this subject is highly confidential. These oil contracts are well within the ordinary competence of the Admiralty to settle, subject to Treasury control. It has never been the practice of the Admiralty to publish the terms of its contracts, or even the names of its contractors, for important munitions of war such as oil must be regarded. Parliament has always approved that course being followed, and it never was more necessary that this rule should be adopted and observed than in regard to oil contracts. When you are carrying through a series of complex and delicate negotiations which may powerfully affect a market, limited and controlled like the oil market, or when you are trying to hold a balance between various oil combinations and preserving or developing independent sources of supply, you do not exactly want to go and tell everybody what you are doing beforehand. Our power, such as it is, to make good and thrifty contracts for the public, depends very largely on our being preserved by the House in our right of confidential negotiations.

But, apart from commercial reasons, which, though important, are not comparable in importance with the other aspects of the subject, the quantities of oil needed for the fleet, the amount kept stored in reserve, the amount consumed by various vessels under various conditions—all these facts are as secret in a military sense as the supply or reserve of ammunition or torpedoes. I cannot, therefore, attempt to discuss in public the details of these contracts. I cannot give an exhaustive list of the contracting firms, nor state the quantities of oil we derive from each, nor the exact duration of the contract, nor the price, nor the other conditions. I can, however, state the principle on which we are proceeding. The future of the oil market is so uncertain, the subject is so specialised, and present prices are so unfavourable, that a balance has to be struck on the one hand between the relative advantages and disadvantages of making forward contracts at fixed prices and of providing for rapid periodical revisions of prices on the other hand. This has been kept carefully in view.

In framing the tableau—if I may use such an expression—of contracts which have now been prepared, three governing principles have been observed: First, a wide geographical distribution to guard against local failure of supplies, and to avoid undue reliance on any particular source, so as to preserve as much security and as much expansive power or elasticity in regard to each source as possible. Secondly, to keep alive independent competitive sources of supply so as to safeguard the Admiralty from becoming dependent on any single combination. And, thirdly, to draw our oil supplies so far as possible, from sources under British control, or British influence, and along those sea or ocean routes which the Navy can most easily and most surely protect.

Let the committee observe that it is not a case of choosing between alternatives—it is not a case of choosing this course as against that. On no one quality, on no one process, on no one country, on no one company, on no one sea route, and on no one oilfield must we be dependent. Safety and certainty in oil lie in variety, and in variety alone.

I will make one exception to what I said about the non-publication of the names of firms with whom we propose to make contracts, and only one. I do not defend the principle of making the exception, but I make it because I should not like it to be thought that I used the plea of secrecy as Minister for the Admiralty to shirk any point on which prejudice may

be raised, or out of which people think political capital may be made. So I shall pick out one firm, and one firm only, because it is the firm which has been specially open to challenge, and the one which has been the subject of many insinuations and suggestions. The Admiralty consider it indispensable to the proper solution of the question of oil supply to make a contract for a portion—a comparatively small portion, but still a substantial portion—of our oil supply with the Mexican Eagle Company. That is the company directed by Lord Cowdray, and with which Lord Murray is connected. It is also the greatest British-controlled oil company in the world, and it is one of the comparatively few great British oil companies. The contract, I am advised by my officials, who have been engaged in its detailed negotiations—and I can confirm it so far as my opinion is worth much upon these intricate questions—is one that is extremely advantageous for the public and for the Navy. The Mexican supplies of oil are abundant, and cannot be neglected by the Admiralty. They are a necessary feature in our interim arrangements: they come to us over an ocean route which we can easily and effectively control. My board are unanimously of opinion that we should be wrong if we were to allow ourselves to exclude this valuable source of supply from our general arrangements. No contract has been made hitherto. All rumours to that effect are absolutely false. Indeed, it is only within the last few months that the experiments have been completed which have decided the Admiralty engineers that Mexican oil can safely and conveniently be used in our warships. This, as Lord Charles Beresford said some months ago, is an expert question, and it has been settled to the entire satisfaction of the expert engineers on whom we have reliance.

Major Archer Shee, in putting a supplementary question some weeks ago to the Prime Minister, asked whether it was not a fact that 1,000,000 tons of oil had been obtained for trial purposes from this company. One hundred tons were obtained for that purpose. But though no contract has yet been made with the Mexican Eagle Company, one is going to be made, unless the House, in its wisdom, by withdrawing its confidence, changes altogether the composition of the present administration of the Admiralty.

I assure the committee that there is no difficulty, if the proper measures are taken, in providing fully and certainly, not only for the regular supply of oil for naval consumption, but for the maintenance of the necessary reserves upon a scale which must increase in proportion as our stake in oil-using ships increases. Up to the present moment all necessary measures have been taken, and the situation is under complete control. If we are given the Parliamentary support and confidence required to enable us to act freely and effectively without undue disclosures of matters which, both from a commercial and military point of view are necessarily confidential; if we are not hampered by political considerations or by injurious suspicions—I am speaking with the full authority of my naval and civil colleagues on the board—we are prepared to guarantee a safe and satisfactory solution at every point of this complicated, but at the same time, perfectly manageable problem.

As the great ships are delivered the reserves will be ready, and the current supply will be assured. The storage will have been erected in the right places, and the means of transport and distribution to the fleets at sea will be at hand. Nothing has been neglected so far. Storage has already been created on a great scale, not only in the United Kingdom, but at naval bases throughout the Empire, and the work of extending it and increasing it has proceeded with the utmost possible celerity. We have, without particularly advertising the fact, got built and building a fleet of thirteen oil transport steamers—some large, for transport across sea; others smaller, for distribution to the fleets and flotillas—which will be ready before the end of 1914, that is to say, before the important vessels dependent upon oil come into the fleet. The carrying capacity of the five largest of these steamers is alone considerably greater than the whole quantity of oil which the Navy consumed last year. Of course, we do not rely entirely upon Government steamers, but also upon hired freight to bring in our oil. Experiments of every kind have been made to secure the very widest possible power of utilising oils of different kinds, and negotiations have been carried to their final stage, which promise to ensure a full and steady supply. It only remains to confirm them. Although this might have been disposed of in the ordinary course of Admiralty business, subject to Treasury control, there has been so much talk upon the subject that I thought it right to withhold confirmation until I had had an opportunity of laying my case before the House of Commons, and until I had received from them what I now ask respectfully and claim urgently on behalf of the Board of Admiralty, that is to say, full confidence and, within the proper limits, free discretionary power.

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THE INTERNATIONAL OIL EXHIBITION OF 1914.

ENCOURAGING PROGRESS REPORTED.

IN accordance with his promise before he left London for a brief tour in the United States Mr. G. D. Smith, the organising manager of next year's International Oil Exhibition, called a meeting of gentlemen interested in the oil industry last Wednesday, this taking place at the Holborn Restaurant.

Mr. J. T. Armstrong presided over a good attendance, and in opening the meeting explained that the chief subject was the receiving of a statement from Mr. Smith as to the success he had met with upon his tour in America.

Mr. Smith, in the course of an explanatory speech, stated that he had met with gratifying success in the States. He had had several very favourable interviews with Dr. David T. Day, the chief of the Geological Survey at Washington, and was pleased to announce that that gentleman had consented to do all in his power to further the interests of the exhibition on that side of the Atlantic. The speaker had also got into direct touch with a variety of oil interests, and as a result of this the arrangements were thereabouts concluded, under which a comprehensive and complete oilfield equipment, in which several firms would take part, would form one of the special features in the exhibition grounds. The result, therefore, of his American mission was highly satisfactory.

With reference to progress at home he was pleased to say that the outlook was very hopeful. Already there had been numerous enquiries for space, and although no definite orders had been booked it was simply owing to his absence in the States. Now, however, the letting of positions would be pushed forward energetically, and in his own mind he was convinced of the success of the forthcoming exhibition. The date and the building had been definitely arranged: the building would be that known as the Queen's Palace, at Earl's Court, and the exhibition would run from March 21st to April 4th, 1914. The whole of the oil producing countries were being kept in touch, and the respective governments were being approached for their assistance. In regard to Russia Dr. Dvorkovitz was interesting the government, while Dr. Schwartz was

responsible for the whole of Germany. They had already several promises from Galicia, where a well-known gentleman had the matter in hand, while Mr. Chambers was looking after Italy. The Balkan trouble had doubtless interfered with progress so far as Roumania was concerned, but here also the preliminary steps had already been taken to interest the government. Mr. Aspinall, of the West India Committee, was also doing all possible to secure the support of the Trinidad Government, and Mr. J. J. Kermode, who was in Russia on important business connected with the Government, was also utilising his influence in furtherance of the exhibition.

The lectures would be a special feature of the exhibition, and at the moment several had already promised to give papers upon important subjects, while every effort would be made to have a series of cinematograph films illustrative of the production, the transport, the refining and the distribution of oil.

Mr. Higgins suggested that a prominent part ought to be taken by the apparatus now so generally in use in American fields for condensing the oil gases into motor spirit. Such an exhibit would be of great interest, for the subject was an important one, though frequently lost sight of in this country.

Mr. Stackard commented upon the importance of liquid fuel, and urged that this aspect of the oil question should receive due prominence. If they could get some promise of adequate supplies, and at a reasonable price, from those responsible for the importation and distribution of liquid fuel in this country, it would be a worthy object. Then, too, if they failed in obtaining one of the manufacturers of petrol light to illuminate the grounds and exhibition building they might consider the advisability of installing Diesel engines for providing electric current, as many Diesel engines were now used for that purpose.

After other discussion Mr. Smith submitted additional names as patrons of the exhibition, and also new members of the Advisory Council, while a resolution pledging those present to do all possible to support the exhibition was carried unanimously.

A hearty vote of thanks to Mr. Armstrong for presiding closed the meeting.

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DEVELOPMENTS IN THE OILFIELDS.

LATEST PROGRESS REPORTS OF ENGLISH COMPANIES.

Roumanian Consolidated Petroleum Company, Ltd.—Production for week ended 19th July, 1,203 tons.

Traian Roumanian Oil Company, Ltd.—Production of crude oil for week ended 19th July, 366 tons. Low production owing to shortage of men.

Maikop Midland.—Well No. 1, installing rig. Well No. 2, installing baling drum. Well No. 4, depth 1,391 ft. Well No. 5, depth 1,269 ft.

Maikop Pipe Line and Transport Company, Ltd.—Received for pumping for week ended 19th July, 61,720 poods (995 tons).

Oilfields of Mexico.—Well No. 19, 4,365 ft.; there has been no change. Well No. 31, will resume drilling 23rd July. Production last week was 3,400 barrels.

Cheleken Oilfields, Ltd.—The recent production has been affected by the stoppage of the Diesel engine on Sunday and Monday, and to the fact that well No. 8 was stopped for three days, and No. 12 for two days for repairs to the compressor.

Kazah Syndicate.—No. 1 borehole, 255 ft.; gas exhalations. No. 2 borehole, 117 ft.; small oil flow. Must commence building temporary oil reservoirs, as otherwise too late. Neighbours just commence drilling three boreholes with steam-power.

Romany-Zabrat Oil Company, Ltd.—Telegram, dated 22nd July, received from Baku: "Well No. 1, struck oil at 188 sages (1,316 ft.). Withdrawing 20-in. column to replace lower part 10 sages with screw casing. Will cement between 20-in. and 26-in. columns and then trial bale." (The Romany-Zabrat Oilfields, Ltd., is a joint undertaking of the Baku Russian, European and Russian Petroleum Companies.)

Hungarian National Petroleum Company, Ltd.—Well No. 4, 967 metres, casing 958, sandy shale;

casing working well. Well No. 5, casing parted; fishing for lost string. Well No. 6, 340 metres, casing 335, sandstone. Well No. 7, 689 metres, casing 684; sandy shale. Repeated heavy floods spoiled Government roads, interrupted communication to field, but no damage on field, and work proceeding normally.

Levanovskoe Petroleum.—The production of crude oil for week ended July 19th, 5,430 poods. Well No. 1 still flowing between casing. Well No. 2, depth 1,773 ft.; gas very strong. Well No. 3, depth 523 ft. Telegram from Krimskaya dated 22nd inst.: "Well No. 1 cleaned cork to bottom. Well flowed strongly through top of derrick, five minutes, then corked 1,000 ft.; produced 200 poods. At present flowing between casing rate of 1,200 poods daily, gas very strong."

Black Sea Oilfields, Ltd.—The quarterly report to June 30th states that the production for the three months was 467,680 poods of oil. The operation in well No. 1 on Otvod 11 at Neftianaya having established the existence of a large oil source in the locality, a second well on the same plot is being actively drilled, and has now reached a depth of 1,595 ft. In face of the discoveries on plot 134 in the Khadijinskaya district and of the developments in the Maikop Deep Drilling Company's well on plot 108, the directors consider the prospects, especially in the lower horizon, particularly favourable. They are accordingly participating with other companies of the Anglo-Maikop group in the drilling of a well on plot 120, adjoining plot 108, with the view to exploiting this proved oil source. This well has now reached a depth of 227 ft.; 170,658 poods of crude oil were distilled at the company's refinery during the period under review. The price of crude oil at Ekaterinodar has been steady at 45 copecs per pood.

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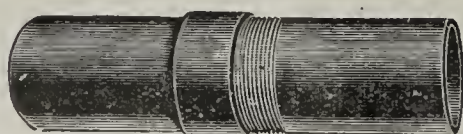
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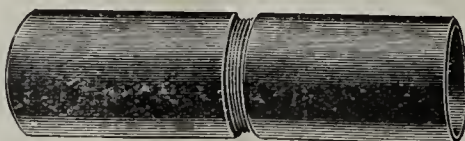
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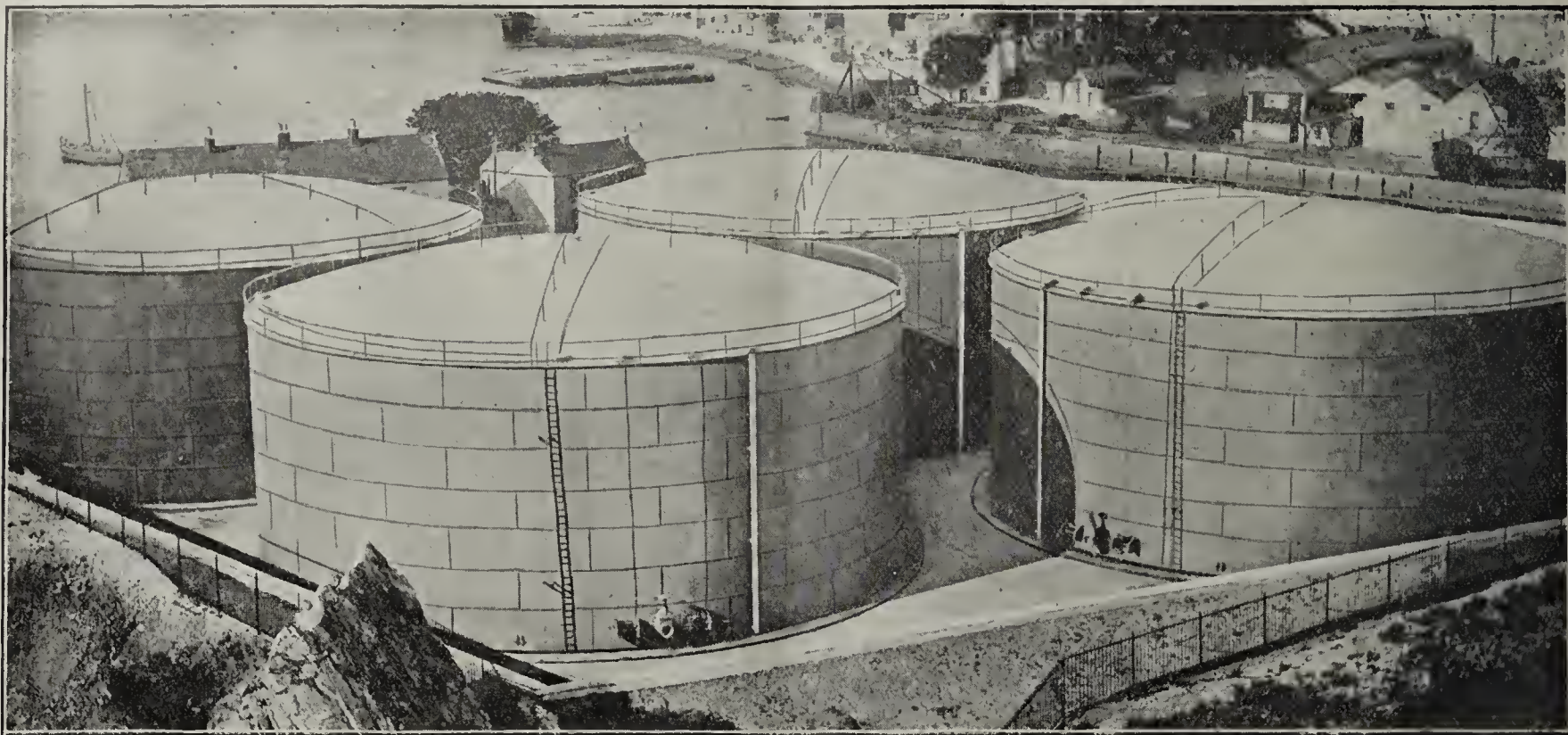
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CHIEF CONTENTS.

	PAGE
Editorial Notes	83
Production of English Companies in Russia	84
Oil Fuel for the Navy	85
The International Oil Exhibition of 1914	89
Developments in the Oilfields	90
Latest Quotations of Petroleum Shares	92
Searching for New American Fields	95
Classified Imports	96
Notes from the Oilfields	97
The Question of the Origin of Taranaki Petroleum	98
Petrol Substitutes for Use in Motor Vehicles	99
Petroleum and Natural Gas in Oklahoma	101
New English Companies	102
In the Mexican Oilfields	103
The Maikop Pipeline and Transport Company, Ltd.	104
Home and Foreign Market Intelligence	105
Imports of Petroleum Products	106
The REVIEW Shipping List... ..	107

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PETROLEUM REVIEW,

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American Office: 111, Broadway, New York.

SATURDAY, JULY 26TH, 1913.

SEARCHING FOR NEW AMERICAN FIELDS.

SO far the recent searches for new productive fields in the United States have produced little or no satisfactory results. The first half of 1913 has passed, and while American field operations have during this period made the highest record ever known, no important new oil districts have been discovered. The sentence is full of significance, especially in view of the enormously extending consumption of American petroleum products. At the beginning of the year it was generally anticipated that work would be unusually active. It was expected that much of it would be employed in wildcat territory. All these expectations have come true, but the results have not been as fruitful as was hoped for by some and feared by others. A

few additions have been made to the pools of Oklahoma ; a new field of uncertain area, and spotted in character, has been opened at Mooringsport, in Louisiana, and elsewhere the numerous wildcat ventures have been failures. It was generally expected, too, that before the middle of the year Kentucky would come into prominence as the next State to add largely to the output. The good wells at Cannel City and the prolific wells found in the western part of the State early in the year gave promise of a prospective field of more than ordinary size. It was even hoped that Illinois might hold undiscovered oil districts that should add to its wealth of petroleum. Kanawha County, West Virginia, was also an undeveloped section with great possibilities. Michigan was being tested and producing sands had been discovered in that State that offered some inducements for further development. Such was the situation at the close of 1912. Few would have dared to prophecy then that so much work could have been done and make so small an addition to the known producing area.

Hundreds of wildcats have been drilled in Illinois and all have been failures. Kentucky has always been a State of slow oil development and the results have never been more than of local importance. The eastern part of the State, as the *Oil City Derrick* points out, has had many oil and gas pools, but they have been restricted in area and rich on only a few acres. This condition still holds good, so far as the operations have developed the State this year. Not enough work has yet been done in the western section to determine its value, but it is the most promising part of Kentucky.

Kanawha County, West Virginia, is still furnishing large wells, and while the gushers of Blue Creek have declined rapidly, the total output is being fairly held by the good producers found in the pools outside the gusher area. Oklahoma is the only division which is making any large additions to the total production east of the Rockies. Yet even that is not so great as would be expected from the reports of large wells and wonderful activity. At the beginning of 1913 the production of Oklahoma and Kansas was estimated at about 162,000 barrels a day. The daily output is now estimated at 185,000, a gain in the six months of about 23,000 barrels a day. The Texas Panhandle fields have made a slight gain during the first half of the year, but not what was looked forward to by operators, for the daily output of all the districts about Electra is now only about 3,000 barrels more than last January. Illinois

has lost steadily, while West Virginia has fairly held its own. The most satisfactory gain in production has come from the work done in the old fields and on the old leases. This has consisted not only of drilling new locations, but cleaning out the old producers and putting leases in better shape. The addition to the total production from this source is considerable, and will help to maintain it for a long time.

In going over the old territory and becoming more acquainted with wells which had been producing for so many years that their condition had been forgotten, and drilling new ones, the producers are often agreeably surprised with their discoveries. Even territory as old as that of Oil Creek is found to hold riches which were unsuspected. Within a month wells have been reported that started at from 5 to 15 barrels a day, and such finds, where nothing better than half-barrel wells were expected, are stimulating further effort. The Lima field is also rich in like discoveries. The hundreds of wells finished each month in these old districts are making a fair addition to the total production, and at least a little more than making up for any decline.

The fact still remains, however, that outside the Californian, Mexican and the Mid-Continental fields there is very little evidence of any great tendency to add new production in material quantities to the present output. In such circumstances it is not surprising to find that the crude-oil market in America, in keeping with that of other oil-producing countries, continues to show increasing firmness. The position is satisfactory for the operators, for a healthy market gives an impetus to the serious search for oil, and it is certain that if this search be systematically continued the reward is bound to come in due course in the shape of new areas of production.

New Cheleken Company.—A new company has been formed for the exploitation of petroleum and ozokerite deposits on the Isle of Cheleken. For this purpose the company has leased plots from the natives at Surenda, Meut, Kisil-Pepe and several other localities. The name of the enterprise is "Lubodar," and its capital is 3,500,000 roubles.

A Price War Suggested.—It is more than likely that as the result of the advent of the General Petroleum Company as a marketer of fuel oils in the Los Angeles district, a war of prices may be the result. This is said to be indicated by bids for oil for the Government dredgers recently, when the Standard quoted 75 cents and the General 68 cents per barrel. The newly-completed pipe-line of the General Petroleum Company from the Sunset-Midway fields gives it a great advantage over its competitors.

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IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since July 14.	From Jan. 1.	Since July 14.	From Jan. 1.	Since July 14.	From Jan. 1.	Since July 14.	From Jan. 1.	Since July 14.	From Jan. 1.	Since July 14.	From Jan. 1.	Since July 14.	From Jan. 1.	Since July 14.	From Jan. 1.
Belgium ..	—	—	13,980	400,763	—	—	—	—	—	—	—	120	—	4,240	13,980	416,123
Canada ..	—	—	—	7,040	—	23,940	—	—	—	—	—	—	—	—	—	30,980
Dutch Indies	—	—	—	—	—	—	—	—	550,000	19,916,990	96,320	120,820	—	—	646,320	20,037,810
Germany ..	2,180	129,920	14,630	2,042,850	—	—	—	107,120	—	—	400	400	—	2,400	17,210	2,282,690
Holland ..	—	—	—	7,170	—	—	—	—	434,000	4,572,340	—	—	—	590	434,000	4,580,100
Mexico ..	595,000	4,007,400	—	—	—	—	—	—	—	734,700	966,420	8,048,970	—	—	1,561,420	12,791,070
Roumania ..	—	11,052,767	—	—	—	—	—	1,150,000	—	1,103,000	23,910	7,515,100	—	—	23,910	20,820,867
Russia ..	—	5,339,680	1,073,380	8,586,850	—	238,770	—	—	1,161,500	9,086,090	—	—	—	—	2,234,880	23,251,390
U.S.A. ..	2,050	57,404,076	710,810	27,821,214	18,050	138,930	2,083,520	35,726,080	—	12,393,750	—	2,240,090	14,540	594,575	2,823,970	136,318,715
Other Countries	—	80	9,690	90,320	—	480	—	—	—	4,859,240	—	620	—	1,260	9,690	4,952,000
	599,230	77,933,923	1,822,490	38,956,207	18,050	402,120	2,983,520	36,983,200	2,145,500	52,666,110	1,087,050	17,926,120	14,540	603,065	7,770,380	225,481,745

NOTES FROM THE OILFIELDS.

AMERICAN.

The Electra Field.—At the present time the Electra field is the most productive of any field in the Texas region, and its daily runs of oil are in the neighbourhood of 22,000 barrels. One of the newest wells started production at over 1,000 barrels daily, while there are several which are yielding 500 barrels per day.

The Prairie Company's New Pipe-Line.—The Prairie Oil and Gas Company has commenced the construction of its new pipe-line from Carrollton, Mo., to Alton, Illinois, a distance of 275 miles. When completed this new line will handle 20,000 barrels of Mid-Continental crude oil daily.

The Pierce Oil Corporation.—This recently organised corporation, which is chartered under the laws of West Virginia for the purpose of absorbing all the Waters Pierce Oil Company's properties, has now qualified to operate in Oklahoma, and has been granted the necessary permission. The corporation's capital is \$31,000,000.

Philadelphia Exports.—The exports of petroleum products from Philadelphia have recently been exceptionally heavy, and for the first week in July reached nearly 12,000,000 barrels. The cargoes of the Standard Oil Company's tanker, the "Iroquois," and the "Navahoe," which the tanker is towing to London, alone represented 7,000,000 gallons, one half of which is motor spirit.

A New Lawrence County Field.—There is much enthusiasm in eastern Lawrence County over the prospects of adding thousands of acres of undeveloped territory to the county, which will give an abundance of acreage to keep the drill busy for months. The Ohio Oil Company is carrying out a programme which includes the drilling of 200 wells, some of which are quite of the wild-cat order, and it is the success of one of these that has created the present boom in oil lands.

RUSSIAN.

The Caspian Society.—The dividend of the Caspian Society for 1912 has been fixed at the rate of 150 roubles per share.

A New Boring Company.—A new boring company, under the name of "Robur" or "Russian Company for Boring Petroleum Wells" is being formed, with a capital of 1,500,000 roubles in 15,000 hundred roubles shares. The administration of the company will be in Baku.

Spouters at Surakhany.—In the early morning of June 23rd a spouter broke out from well No. 4, on plot No. 1, of the Caspian Black Sea Company, ejecting 150,000 poods of oil a day. Six days later another spouter broke out on the properties of Nobel Bros., with a yield of 200,000 poods a day.

A Spouter at Binagadi.—On June 24th a spouter again broke out at Binagadi from well No. 1 of the Binagadi Petroleum Society, which lasted thirty minutes, yielding 10,000 poods of petroleum. On the 25th the spouter renewed its activity, and ejected 200,000 poods of oil in a few hours, after which the spouting was of sand only.

Hand-dug Wells.—The administration of the State properties at Baku has promulgated a series of measures concerning the production of petroleum from hand-dug wells, namely, to stop all production which has been carried on by people not having agreements with the Treasury, and to strictly supervise the production, so that all regulations should be adhered to by the producers.

ROUMANIAN.

The Colombia Well.—This well maintains its yield of 600 to 650 tons on the average daily. The total yield is now over 380,000 tons.

Halo Romano.—This company shows a profit of 203,440 francs for the year 1912, which has been transferred in its entirety to the amortisation fund.

The Steaua-Romana.—The production of this company during the last week averaged 1,075 tons, of which 540 tons were obtained at Campina and 240 tons at Policiori.

Prices.—Owing to the exceptional situation in which the Roumanian petroleum industry is placed by the events in the Near East no transactions of importance have been recently concluded, the few exceptions being no criterion as to the standard for prices.

Exportation.—The exports from Constanza continue as usual, but the transport by train is at present interrupted. It is expected that the transport to Constanza and to the interior will soon be resumed.

The International.—The production of this company now amounts to 120 to 130 tons a day. The well No. 9 at Guro-Ocritzei, brought in at the end of May, now gives by eruption from 20 to 50 tons per day.

Distribution Company.—All the installations of the Distribution Company have now been replenished so that the company is in a position to satisfy all demands for kerosene and benzine. Exceptional measures have been taken to secure the supply to consumers of the necessary quantities of liquid fuel.

Nafta.—A general meeting of the shareholders of this concern, held on the 8th of this month, has approved the increase of the capital from 5,000,000 francs to 10,000,000 francs. The production of the company during the six months of the year amounted to 8,273 tons, showing an increase of 1,121 tons as against the preceding period of 1912.

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The Question of the Origin of Taranaki Petroleum.

AT a recent meeting of the Canterbury Philosophical Institute held at Taranaki, N.Z., Mr. R. Speight, D.C., gave an interesting address on the origin of the petroleum deposits recently located in Taranaki.

Mr. Speight said that although bores had only been sunk over an area of a few acres at Moturoa, near New Plymouth, it was known that hundreds of square miles in Taranaki were petroliferous. The official report on the deposits, made by Mr. de Courcy Brown, of the Geological Survey, did not go into the matter of origin.

Apart from the actual surface appearance of petroleum in the rocks at Moturoa there was circumstantial evidence of a petroleum deposit over an area of country three miles wide and thirty miles long, running south-east from New Plymouth. Over the whole of this area gas emanations were met with, and might be taken as an indication that petroleum was extremely likely to exist in the measures below. The existence of oil shale also was presumptive evidence of the existence of oil deposits. The lecturer said that he was not inclined to believe that the oil on these fields was of volcanic origin. No volcanic rock had been met with in the borings at Moturoa, and it might be presumed that the rock at Moturoa, like the rock of Paritutu, was not of volcanic origin although it was located in the midst of the area of volcanic debris surrounding Mount Egmont.

He reviewed briefly the various leading theories regarding the origin of petroleum, including the theory of Sir James Hector, who considered that petroleum had its source in the action of volcanic rocks, and the theory that the oil was the produce of an organic origin, he said, was supported by the presence of sulphur and of nitrogen in many of the world's oil deposits, but it was difficult to explain how such enormous quantities of the oil could be found in a comparatively small area. There might, however, have been conditions which would have brought about a vast deposit of animal matter. The floor of the Black Sea, for instance, was covered for a depth of many feet with decaying or

partially-decaying animal matter. The Black Sea was of comparatively recent formation and was connected with the Mediterranean only by one shallow strait. It had no deep-sea scavengers to absorb the dead fish that fell from the upper waters. It was necessary, where the conditions precedent to the formation of an oil deposit, whatever they were, had been fulfilled, that something should take place to trap the oil and protect it. Oil was found most frequently in America in places where the upper strata of the earth's crust had been pushed upward and bent, leaving a hollow under the crown of the upheaval, in which the oil accumulated. The cause of such upheavals was in most instances probably the rising up of a volcanic plug. This was almost certainly the case with the oil deposits in Mexico.

The conditions in the neighbourhood of New Plymouth were entirely favourable to the conservation of petroleum, and the probabilities were that the petroleum had its origin in decomposed marine animal matter. The papa formation which abounded in the district was full of organic matter, and an analysis of the brine found in the rocks bore out the general assumption of a marine origin. The brine was in many ways dissimilar to sea brine, but its constituents suggested a marine origin.

Professor Evans congratulated Mr. Speight on his valuable and interesting address, which, he said, was of exactly the type the Institute wanted.

Dr. Cockayne asked if Mr. Speight had seen specimens of the rock from the 4,000 ft. bore at Moturoa. An examination of so deep a strata should prove instructive.

Mr. Speight said he had not been able to get specimens from the borings. Those interested in the oil industry naturally desired to keep the information regarding the indications given by their borings to themselves.

On the motion of the president, Mr. Speight was accorded a hearty vote of thanks.

LAUNCH OF THE S.S. "LUZ BLANCA."

THIS vessel, which is being built to the order of Messrs. Lane & Macandrew, for the carriage of petroleum in bulk, on behalf of the London and Pacific Petroleum Company, Ltd., was successfully launched, on Monday, from Messrs. Dobson's yard at Walker.

Her dimensions are: length 375 ft., B.P. breadth 52 ft. 3 in., and depth moulded 29 ft. 6 in. She is being built under special survey to Lloyd's highest class, and both hull and machinery are under the supervision of Messrs. Flannery, Baggallay & Johnson, Ltd., of London, Liverpool and Rotterdam, their resident engineer being Mr. G. D. Crohan.

The cargo space is divided into eight pairs of oil tanks and four cofferdams. Heating pipes are being fitted in view of the vessel carrying creosote. Three large duplex pumps are also being fitted to deal efficiently with the discharge of cargo, each capable of pumping 150 tons per hour.

The machinery, which is of the triple expansion

type, is by the North-Eastern Marine Engineering Company, Ltd., of Wallsend having cylinders 27 in., 45 in. and 74 in. by 48 in., taking steam from three single-ended boilers of large size working at a pressure of 180 lbs., and fitted for firing by liquid fuel as well as coal. Before leaving the ways the ceremony was performed by Mrs. T. C. Hancock, of Roehampton. Mr. Hancock represented the owners at the launch.

THE PETROLEUM TRADE OF BATOUM.

Statistics for May.

THE following table shows the imports of petroleum products to Batoum, the exports of the same from Batoum abroad and inland, during May:—

	Imports.		Exports.		Left in store on June 1st.
	Poods.		Abroad. Poods.	Inland. Poods.	
Kerosene ...	1,839,611		2,132,881	23,455	4,248,093
Lubricating oil ...	1,032,763		1,309,604	23,051	2,111,619
Residuals ...	295,796		522,674	317	282,515
Crude oil ...	64,267		—	763	—
Other products ...	—		—	—	—
Totals ...	3,232,437		3,965,159	47,586	6,642,227

Petrol Substitutes for Use in Motor Vehicles.

By SIR BOVERTON REDWOOD, BART.,
and PROF. VIVIAN B. LEWES.

*An interesting paper read
before the Imperial Motor
Transport Conference this
: : : week. : : :*

THE present high price of petrol, and the apprehension of increasing scarcity, with even higher resulting cost, have naturally directed attention to the question of possible substitutes, obtainable in adequate quantity at moderate cost.

It is obvious that any discussion of the subject which is to lead to practical results must be based upon an intelligent appreciation of all the factors; and accordingly the authors, in acceding to the request of the Executive Committee of the Imperial Motor Transport Conference to furnish a short paper that shall serve as a basis for discussion, propose to give, as an introduction, a résumé of the subject, as it presents itself to them.

In order to prevent confusion it may be well, in the first place, to define motor spirit as an easily evaporated combustible liquid sufficiently volatile to admit of the vapour forming an explosive mixture with air at moderate temperatures. This definition includes not only petrol, which may be described as that portion of crude petroleum which distils below 120° C., and has a specific gravity below, say, 0.75, but covers any liquid which meets the requirements indicated.

It may also be desirable as a preliminary step to dismiss from consideration the popular impression that the high price of petrol is mainly due to trade combinations and artificial restriction of output, and to recognise that the advance in cost has been directly brought about by the gigantic increase in consumption.

Since 1905 the imports of petrol into England have risen from 18,000,000 to 80,000,000 gallons, and it is probable that the consumption this year will amount to 100,000,000 gallons. In America the demand has increased at an even greater rate, and the same conditions exist in all European countries. England, France, Spain, and to a great extent Germany, have no oilfields at home to supply the local demand, and are therefore dependent upon the surplus over and above that needed for home consumption in the countries that have oilfields. The 80,000,000 gallons used in the British Isles last year were drawn from the following sources :—

				Gallons.
Dutch East Indies	...	...	...	46,000,000
America	...	...	...	16,000,000
Russia	...	...	...	5,000,000
Roumania	...	...	..	4,000,000
Other countries	...	...	...	9,000,000

so that more than half our supply came from the fields of the Royal Dutch and Shell Companies, whilst the American supply, which, up to five years ago, was our chief source of petrol, has now shrunk to one-fifth of the total.

Less than twenty years ago that portion of the crude oil distilling below 120° C. was chiefly used as a source of light and heat, and when it was first employed as a

source of power its price was low. For a time the abundance of supplies and competition between the American and Dutch East Indian sources prevented any considerable advance, but as the rapidly progressive home consumption in America reduced the quantity available for shipment, competition grew weaker and advantage was taken of the opportunity to place the market for petrol on a more profitable footing.

With regard to the petrol supply, it must be borne in mind that last year the world's total production of crude oil amounted to 50,000,000 tons, and that the growth in the production of crude oil has less than doubled itself since 1905, whilst the demand for petrol has more than quadrupled. The amount of petrol to be obtained from the crude oil varies very greatly, some oils, such as the heavy petroleum of the Californian fields, being very poor in the lighter fractions, whilst the Roumanian and some of the Dutch East Indian fields yield an oil which gives a large fraction of the needed quality, and it would probably be fair to take the ratio of petrol to the world's crude oil supply at 10 per cent. On this basis the 80,000,000 gallons that we in this country used last year represent only about 2½ per cent. of the world's total production; but it is clear that with the demand growing so much faster than the production, competition for the petrol must become keener, and any lowering of the price in countries that do not themselves produce, is extremely unlikely.

Another factor which has tended to increase the price of petrol has been that we have been suffering from insufficient transport facilities, but that the excess of demand over supply is the chief factor is shown by the very high price of the crude oil at the oilfields.

In these circumstances it is of the highest importance to find some other source or sources for a considerable proportion of the motor-spirit needed.

The only sources from which this is likely to be obtained are :—

1. Those portions of crude petroleum other than the petrol fraction.
2. Products of the destructive distillation of coal and shale,
3. Products of fermentation.

Taking these in order, we will discuss first the yield of motor-spirit from crude oil. Where oil exists it is usually accompanied by natural gas, which contains not only methane and traces of the other three gaseous members of the paraffin series, but also traces of the vapour of pentane and hexane, and a very important advance has been made in condensing these liquid hydrocarbons out of the natural gas instead of either letting them escape freely into the atmosphere or burning them for the creation of power. Even with

oils so poor in petrol as most of those of the Californian fields it is found that the natural gas contains enough hydrocarbon vapour to make it profitable to recover it by compressing the gas, when the vapour of such hydrocarbons are as liquid condense. In the Oklahoma and Kansas fields 12,500 gallons daily are recovered in this way, and the product, which is the lightest spirit obtainable, is becoming of great value for mixing with heavier grade petrols to give them the necessary volatility. This process is still in its infancy, and will, undoubtedly, be extended to all the oilfields, yielding a very important addition to the petrol supply.

In studying the question of motor spirit one is led to the conclusion that the carburetter, which is the all-important factor, has received a smaller amount of attention than it deserves, and much may yet be done in the direction of making carburetters better adapted for use with the heavier grades of petroleum products. For many years past attempts have been made to use for motor purposes the fraction of petroleum having a specific gravity of about 0.8 which is usually employed as lighting oil, and many patents have been taken out for making motor spirits composed of such oil mixed with sufficient petrol to give the necessary volatility to start the engine.

A study of these patents reveals the fact that in most cases the patentee uses a mixture of about 40 per cent. of petrol with kerosene of a specific gravity of 0.8, and depends for the novelty of his invention upon the introduction of various substances intended to aid the *pro rata* evaporation of the heavier portions of the

mixture. With several forms of carburetter on the market, such a mixture gives excellent results when used under uniform conditions, but it lacks the elasticity necessary for congested traffic, where constant slowing down, stopping and re-starting are requisite, and is apt to give rise to starting troubles in cold weather. These objections have been met by providing a small supplementary feed-tank containing petrol, which is used for starting the engine and keeping it running until the system is warm, when the main tank, containing the mixture, or even ordinary lighting oil of a specific gravity of 0.8, can be connected, and the running continued satisfactory until the need for stopping occurs, after which the petrol is again turned on to give the necessary starting power. By the adoption of such methods the requirements of the public motor vehicle and trade waggon can be met, with a saving of 20 to 40 per cent. in the consumption of petrol.

A process which occupies a position of importance in increasing the production of motor spirit is that which is termed the "cracking" of oil. This term, which is an Americanism, was introduced in connection with the carburetting of water gas to render it fitted for distribution as an illuminating gas, and it is so good a term that it has been retained in speaking of the conversion of heavy oils into those of lower specific gravity and greater volatility. If one heats a hydrocarbon to a high temperature it is "broken up" into carbon and hydrogen, but if the temperature is so controlled as to prevent complete decomposition the hydrocarbon is not broken but "cracked" into lighter hydrocarbons.

(To be continued.)

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Petroleum and Natural Gas in Oklahoma.

By Mr. C. N. GOULD.

IN the year 1900, the Mid-Continent Field of Kansas and Oklahoma produced 74,714 barrels of oil. In the year 1911, the production was 59,343,850 barrels. The total production for the twelve years 296,614,503 barrels. Of these amounts Oklahoma has produced at least 250,000,000 barrels. The estimated daily production of natural gas in the state is nearly 2,000,000,000 cubic feet. Nine-tenths of all the petroleum and natural gas produced in Oklahoma has come from one of the following nine counties, Nowata, Washington, Rogers, Osage, Pawnee, Tulsa, Creek, Okmulgee and Muskogee, all of which are located in the north-eastern part of the state.

While it is still too early to make anything like an accurate prediction as to the future of the oil and gas industry of this state, the time has arrived when a résumé of existing conditions may be made, and perhaps even an intelligent forecast of future possibilities. Enough drilling has been done in many counties of the state to determine with some degree of accuracy not only the formations in which oil and gas are likely to occur, but also the possible amount of these substances yet contained in the ground. While it is true that in matters of this kind prophecy is always unsafe, and the best estimates and the most careful predictions often go wrong, it may not be amiss at this time to attempt to forecast the future of the industry in Oklahoma.

Practically all the oil and gas so far found in Oklahoma has been obtained in regions occupied by Pennsylvanian or Coal Measures rocks. Carboniferous rocks occupy all of eastern Oklahoma, except parts, or all, of a half dozen counties east of the Grand River, where rocks of Mississippian age, or older, occur in the north-eastern part of the state, and the counties bordering on Red River in the southern part of the state, where the surface formations are of Cretaceous age.

The Arbuckle and Wichita Mountains, in southern Oklahoma, consist largely of granite and limestone rocks. In these regions no oil or gas may be expected. The western half of the state is occupied by the Red beds; the rocks being of Permian age. In these rocks no oil, or gas, has been found in Oklahoma, except a limited amount in the vicinity of the Wichita and Arbuckle Mountains. In the extreme western part of the state, the Red beds are covered by deposits of Tertiary age. So far as known, oil and gas have been found in neither the sub-Pennsylvanian, Cretaceous or Tertiary deposits in Oklahoma.

With these facts in mind it may not be difficult to eliminate certain regions in which the probabilities for finding oil and gas, in paying quantities, are at a minimum. These regions, which will be discussed in very brief detail, include the four mountain uplifts and the greater part of the great Red beds area of western Oklahoma.

THE OZARK UPLIFT.

The north-eastern part of Oklahoma is occupied by the south-western extension of the Ozark uplift, which finds its greatest development in southern Missouri and in northern Arkansas.

The principal formation of this uplift as exposed in Oklahoma is the Boone Chert, known to the oil driller as the Mississippi Lime. It is a ledge of hard limestone, of Mississippian age, 150 to 350 ft. thick, which occupies the crest of the high hills and makes up the plateau lying east of the Grand River. On passing westward this formation dips beneath the surface, and is overlain by successive deposits of Pennsylvanian or Coal Measures age, from which practically all the oil and gas so far found in the state have been obtained. A number of wells have been drilled through this Boone Chert, but so far as known neither oil nor gas, in paying quantities, has been found beneath this formation.

Exposures of the Boone Chert occur in Ottawa, Delaware, eastern Mayes, Cherokee, Adair, northern Sequoyah, and eastern Muskogee counties. Judging both from geological conditions and practical experience, it is practically useless to attempt to find oil or gas in this region.

THE OUACHITA MOUNTAINS.

The Ouachita Mountains occupy an area of several thousand square miles in the south-eastern part of the state, extending from central Atoka County east to the Arkansas line. Included in this area is eastern Atoka, southern Pittsburg, southern Latimer and southern LeFlore counties, northern McCurtain and practically all of Pushmataha counties.

The rocks of the Ouachita Mountains consist of alternating strata of sandstones and shales, probably of Carboniferous age, which have been greatly faulted and folded, so that at the present time, the rocks are standing practically on edge. The various heavy sandstone members form long timber-covered ridges. The thick deposits of shale have been worn into narrow valleys.

There are in these mountains considerable deposits of asphalt, usually in the form of grahamite and gilsonite. These deposits are found intruded in crevices among the shales, or between bedding planes. It is quite probable that these asphalt deposits represent the residuum of petroleum which existed in former geological ages, from which the volatile lighter oils and gases have been distilled. If this assumption be true, it is practically useless to attempt to find oil or gas in paying quantities in the Ouachita Mountains.

THE ARBUCKLE MOUNTAINS.

These mountains are located in the southern part of the state, occupying southern Pontotoc, western Coal, northern Johnson, southern Murray, and north-eastern Carter counties. The mountains consist of an uplifted, truncated dome, with a granite core, along which are flanked sandstones, limestones, and shales of lower

Paleozoic age. These rocks have been greatly faulted and folded in the process of uplifting. Many deposits of asphalt, both in the pure state and as impregnations of sedimentary rocks, occur in, or near, the Arbuckle Mountains. It appears very probable that the conditions which lead to the formation of asphalt must have eliminated the more volatile hydrocarbons, and for this reason it is apparently useless to attempt to find petroleum or natural gas in quantity in the Arbuckle Mountains.

THE WICHITA MOUNTAINS.

The Wichita Mountains in south-western Oklahoma are structurally very similar to the Arbuckle Mountains, consisting of an uplifted, truncated dome flanked by lower Paleozoic sediments. In the case of the Wichitas, however, erosion has progressed to a much greater extent than in the Arbuckle Mountains, so that the Wichita Mountains consist very largely of jagged peaks of red granite. The Paleozoic limestones are relatively inconspicuous. Deposits of asphalt occur in the limestones, and in the Red beds shales and sandstones, near the edge of the mountain uplift, and small quantities of oil and gas have been found at no great distance from the mountains. These will be discussed later.

THE RED BEDS AREA.

As stated above, the western part of Oklahoma is occupied almost exclusively by the Red beds, the term being used in a general sense to describe a vast deposit of rocks of Permian age, the prevailing colour of which is a deep brick-red. The rocks consist largely of red clay shales with occasional interbedded ledges of some other rock, usually either soft sandstone, massive white gypsum, or rather thin ledges of dolomite.

Until the last few years, it was believed by practically all geologists who had studied the problem, that the chances for finding oil or gas in quantities anywhere in the Red beds area were very meagre. A few unimportant oil and gas wells near Lawton, Granite and Gotebo, in the vicinity of the Wichita Mountains, and a few shallow water wells containing small amounts of oil and gas, which have been drilled in the region south-west of the Arbuckle mountains, in what is now Carter, Stephens and Jefferson counties, demonstrated, however, that oil and gas actually did occur in these rocks. The finding of small amounts of these substances lead to the hope that continued drilling throughout the region might reveal the presence of considerable volumes of these hydrocarbons.

Within the past five years, three very prolific oil-fields have been found in the Red beds. These are the Wheeler field, in Carter County, Oklahoma; less than ten miles from the Arbuckle Mountains; the Petroliafield, in northern Clay County, Texas, and the Electra field in Wichita County, Texas. The Petrolia and Electra fields are about ten miles south of the Red River. It is a very significant fact that all the oil and gas so far found in the Red beds occurs at a distance less than fifty miles from a mountain range. In all of these fields, however, while the surface rocks are the ordinary Red beds, the oil and gas are encountered in ledges of sandstone either near the base of these Red beds, or in and among the non-red sediments beneath.

These facts have compelled both the geologist—and the theoretical oilman—to revise his statements, and have materially extended the probable areas within which oil and gas may be profitably sought.

(To be continued.)

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REGISTERED July 16th, by Messrs. Francis Voules & Co., 65, Bishopsgate Street, E.C. Capital, £15,750, in 15,000 Preference shares of £1 each, and 15,000 Ordinary shares of 1s. each. Objects: To acquire any petroleum, asphalt, naphthalene or oil-bearing lands in Russia or elsewhere. Private company. The first directors (to number not less than two nor more than nine) are to be appointed by the signatories. Qualification, 100 shares. Remuneration, £100 each per annum (chairman, £50 extra) and a percentage of the profits. Registered office, Pinner's Hall, Austin Friars, E.C.

BORYSLAW OIL TRUST, LTD.

Registered July 18th, by S. H. Perrin, 46, Sackville Gardens, Hove. Capital, £30,000 in 29,000 Ordinary shares of £1 each and 20,000 Deferred shares of 1s. each. Objects: To acquire options on oil-producing properties in Galicia, to acquire oil and mineral wax properties, to provide funds for forming companies to take over and work the mines and properties when acquired, etc. Minimum cash subscription, £7. Registered without articles of association. Registered office, 10, Walbrook, E.C.

GALICIAN OIL ROYALTY-HOLDERS CORPORATION.

Registered on July 11th, with a capital of £5,250 (5,000 £1 Cumulative Preference and 5,000 1s. Deferred). To acquire royalties or other rights payable in respect of oilfields and other properties. Minimum cash subscription, seven shares. 36, King Street, E.C.

BRITISH COLONIAL AND FOREIGN OILFIELDS SYNDICATE, LTD.

Registered July 18th, by Ellis, Strange & Co., 93 and 94, Chancery Lane, W.C. Capital, £1,000, in 500 Preference shares of £1 each and 10,000 Ordinary shares of 1s. each. Objects: To search and prospect for oil and oil-bearing lands, to bore and sink wells, to import, export and refine mineral and other oils, etc. Private company. The first directors (to number not less than two nor more than five) are: Lieut-Col. J. Hood, E. Slade and H. E. Hopperton (all permanent), and one other to be appointed by either of them. Qualification, £5. Registered office, 93-94, Chancery Lane, W.C.

YOMAH OIL COMPANY.

Registered on July 17th, with a capital of £150,000 (£1). Refiners of and dealers in petroleum and other mineral oils and the products thereof, mine owners, merchants, carriers, wharfingers, manufacturers, ship-owners and builders, lightermen, etc. The signatories are: J. A. Le Brasseur, 40, Carey Street, Lincoln's Inn, W.C.; C. B. Cotton, 11, Tylney Road, Forest Gate; W. D. McFaden, 146, Willifield Way, Garden Suburb, Hendon; S. J. Drinkwater, 31, Grayling Road, Clissold Park, N.; F. King, The Cedars, Ashted; W. P. Bennett, 37, Clarges Street, Piccadilly, W.; T. E. L. Oakley, 40, Carey Street, Lincoln's Inn, W.C. (one share each). Minimum cash subscription, 50 per cent. of the shares offered to the public. First directors (not less than two nor more than five) by signatories. £100. £100 each per annum (chairman £150) and 10 per cent. of the surplus profits available in any year when 15 per cent. dividend is paid, divisible.

IN THE MEXICAN OILFIELDS.

INTERESTING PHOTOGRAPHS.

THANKS to the courtesy of the officials of the Anglo-Mexican Petroleum Products Company, Ltd., who are the marketing agents for the Mexican Eagle Oil Company, we are in a position to publish two of the latest photographs taken in the Mexican oilfields. The first of these is an up-to-date view of the enormous earthen

reservoir of Mexican oil at Potrero del Llano, near the spot where the phenomenally prolific well of the company was brought in, and which to-day contains approximately two and a half million barrels of crude oil, while the second picture shows the new warehouse and machine shop of the Mexican Eagle Co. at Tampico.



This lake contains sufficient liquid fuel to supply all the wants of the British Admiralty for over twelve months.



The Mexican Eagle Company's Warehouse at Tampico with the Tank Installation in the background.

DETAILS OF BAKU PRODUCTION DURING APRIL.

THE following are the details of the production of crude oil at the Baku oilfields during April, as published in the latest issue of the *Neftiannoie Dielo* (in poods) :—

						PRODUCTION (in poods).					
						Number of Wells in exploitation.	By Baling.	By Spouters.	Casual.	Total.	Average per Well per Day.
Balakhany	...	...	...	...	...	912	5,386,047	—	190,635	5,576,682	202
Saboontchi	...	..	...	...	...	1,169	18,671,455	—	187,778	13,859,233	410
Ramany	...	...	...	...	...	300	6,776,123	—	66,611	6,842,734	837
Bibi-Eybat	...	...	...	...	...	321	7,895,026	—	15,753	7,910,799	907
Total						2,702	33,728,651	—	460,777	34,189,428	443
Total for April, 1912						2,218	34,151,073	1,938,362	248,189	36,337,624	573

The Maikop Pipeline and Transport Company, Ltd.

ANNUAL MEETING OF SHAREHOLDERS.

THE second ordinary general meeting of the shareholders of the Maikop Pipeline and Transport Company, Ltd., was held yesterday (Friday) week, at Winchester House, E.C., the company's chairman, Mr. Cosmo Nevill Peake, presiding.

In moving the adoption of the report, which appeared in the last issue of the REVIEW, the chairman dealt in detail with the accounts, and afterwards referred to the operation in connection with the sale of part of the pipes which were originally intended for the second pipeline to Touapsé. The shareholders would recollect that in the spring of 1911 they purchased and partly laid the pipes and plant for a pipeline to Touapsé, in addition to their main line to Ekaterinodar. Before the Touapsé line was completed, however, they were approached by the Maikop Mutual Oil Transport Company, which had at that time practically finished their line to Touapsé, and as a result of negotiations, their company took over as a going concern the Mutual Company's pipeline. They were then faced with the problem of what to do with the surplus pipes, plant, and machinery resulting from that amalgamation of interests, but eventually they decided to utilise some of the material for the pipeline they were going to build from Krimskaya oilfields to Krimskaya station. That new line, he was pleased to say, was just completed. Then they had been able to sell the surplus pipes to the extent of £63,000, and now they were negotiating for the sale of the pumping plant, etc. The capacity of the pipelines from the Maikop field was at present in excess of what was required for dealing with the oil, for they could well handle over 1,000,000 poods per week. With regard to the Maikop field, there was no doubt that the deeper oil horizons would be prolific. So far only one well has reached the lower sources on the Maikop field, and though the casing collapsed the well flowed regularly from last November until last month, when the repairs to the damaged casing were taken in hand. The chairman proceeded to point out that highly favourable results had been obtained at Krimskaya, and the prospects there were very favourable indeed.

Mr. George Tweedy, in seconding the adoption of the report, said: Since our last general meeting I have spent many months on the field, and I have, therefore, had ample opportunity of studying the details of our work under all possible conditions, winter and summer. Having spoken at so many of our meetings at the end of last year I do not think you would wish me to go over the ground again, but I can confidently say that I endorse everything your chairman has said about the prospects of the field and the outlook for our pipeline business. As he has

told you, deep-drilling operations are in active progress in various parts of the Maikop field, and every oil expert that I have met is of opinion that large oil deposits will be found at depth. People not acquainted with the winning of oil—and this is what I wish to emphasise—seem to think that, after having been delayed in new developments all last year and until March of this year by bad weather, bad roads in consequence of the weather, etc., as soon as the conditions improved the production should have immediately increased. This, of course, is a mistaken idea. Drilling material and casing have to be transported before new wells can be commenced, and some months must elapse before these wells can be completed to the oil source. In the interim, therefore, the new wells projected do not come in to replace the natural decrease of output from the older wells. I made a comparison some time ago between the results on the Maikop field and those of other successful oilfields in their earlier years, all of which were in favour of Maikop. As an oil man I do not feel in the least disturbed by the delay in the anticipated increase in the production. As a result of repeated visits to Russia I think we have got our organisation there into a very high state of efficiency, and I am satisfied that on no new oilfield can either development work be carried out or a large output be handled more effectively or economically than by our staff at Maikop. Another satisfactory feature is that we in London are closely in touch with the whole details of the operations in Russia, and, therefore, our work on both sides proceeds smoothly. The developments at Krimskaya have come about subsequent to my last visit to the district about two months ago, though at that time they were not unexpected and consequently all necessary steps were being taken to handle a large oil output. As the chairman has pointed out, we ought to have in our Krimskaya line a fine source of revenue. I do not want to detain you any longer, but if there are any other points of a practical character on which shareholders require information I shall be only too pleased to do my best to give it. I have much pleasure in seconding the resolution.

Mr. Hackley, speaking as a late shareholder of the Maikop Mutual Company, congratulated the Maikop Pipeline shareholders on the excellence of their bargain in the amalgamation.

After some discussion the resolution was put to the meeting and adopted.

The election to the board of Mr. H. G. Trew and Mr. Alfred Hicks (late director of the Maikop Mutual Oil Transport Company) was confirmed, and the director retiring by rotation—Mr. Peake—was unanimously re-elected.

THE OUTPUT OF BAKU REFINERIES DURING APRIL.

THE following table shows the quantities of various distillates and refined products obtained in the Baku refineries during April:—

	Distillate. Poods.	Refined Products. Poods.
Kerosene	7,245,344	6,787,754
Lubricating oil ..	2,085,452	1,644,505
Solar oil (light) ...	235,644	1,673
„ „ (heavy) ...	557,335	—
Benzine	1,249,597	133,793
Lubricating residuals ...	2,690,920	—
Residuals	12,989,528	—
Goudron	58,310	—
Paraffin	3,224	1,756
Total	27,115,354	8,569,481

SURAKHANY PETROLEUM PRODUCTION.

Details for April.

THE total production of petroleum on the Surakhany oilfields during April amounted to 4,415,334 poods of black oil, 28,127 poods of white oil, and 340,953 poods of gas. The production of the various firms was as under:—

	Gas. Poods.	White Oil. Poods.	Black Oil. Poods.
Asadulaeff	—	3,526	1,875,000
Baku Petroleum Company...	24,147	22,030	77,500
Benkendorff Company ...	17,856	2,571	870,864
Caspian and Black Sea Society	44,320	—	578,400
Mirzoeff Bros.	254,630	—	53,200
Nobel Bros.	—	—	771,661
Lukke & Gaber	—	—	96,809
Rilski Trustees	—	—	91,900
Total	340,953	28,127	4,415,334

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

July 25th, 1913.

There are no alterations in the prices of Refined Petroleum, which remain as follows:—Russian, 8³/₄d.; American, 8¹/₂d.; American Water White, 9¹/₂d.; Roumanian, 8d.; Galician, 8¹/₄d.

LUBRICATING OILS

are unchanged, current prices being for:—

- No. 1 Russian, spot and forward, £12. 2s. 6d.
- American pale, from £10. 7s. 6d.
- American dark, from £12. 2s. 6d.
- American filtered cylinder, from £14. 12s. 6d.

FUEL OIL

is quoted for spot, 77s. 6d. per ton, in bulk, ex wharf, and 80s. per ton for grease-making oil.

MOTOR SPIRIT.

The retail price in London for the best quality is 1s. 9d. per gallon, and for the second quality 1s. 7d. per gallon.

TURPENTINE.

American Turpentine at the moment of writing is firm at 28s. for spot and August; 28s. 6d. for September/December.

LIVERPOOL.

July 23rd.

Petroleum oils have a good sale, and former currencies are asked for Refined, 8³/₄d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, June 30th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Bazaar Rates—Delivery charges extra.	Rs.	a.	p.
Kerosene Oil "Waterlily," per case of two tins	...	5	4	0
" Firefly, per case of two tins	...	4	15	0
" Chukker, per two tins	...	4	5	0
" " per 8 gallons	...	3	11	0
" Victoria, per two tins	...	3	11	6
" " per 8 gallons	...	3	1	6
Burmah Wax, per pound, 1st quality	...	0	4	0
" " 2nd quality	...	0	3	0
" Candles, per pound	...	0	4	0

AMERICA.

NEW YORK, July 23rd.

Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, July 23rd.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, July 23rd.

The petroleum prices have remained firm. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA. BAKU, July 23rd.

The petroleum market is now firmer. Crude oil is quoted at 43³/₄ copecs per pood spot. Mazout, 41¹/₂ copecs. Kerosene, 50 copecs.

ROUMANIA. July 23rd.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Francs.
Bushtenari	7.75–7.80
Moreni	6.50–7.30
Tzintea	4.25–4.75
Policiori	4.50
Bana, 0.850	8.50
Paraffin	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	29.00–31.00
" sp. gr. 0.715–0.720, f.o.b.	...	25.00–27.00
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–20.00
" sp. gr. 0.740–0.755, f.o.b.	...	16.00–18.00
Residuals, f.o.b. Constanza	...	5.75
Gas Oil	...	8.00

AUSTRIA. July 23rd.

Crude oil is quoted 9.20 kronen spot. Kerosene, 33 kronen at Oderberg. Benzine, 710/720, 45 kronen; benzine, 740/50, 34 kronen; 770/80, 22 kronen at Oderberg. Gas oil, 8.00 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, E.C., report under date July 24th as follows:—

There is very little business doing and prices of oil sizes remain as quoted last week, viz.:—

1c	18 ³ / ₄ × 14	124 sheets	110 lbs.	13/7 ¹ / ₂ to 13/9	per box.
1c	20 × 10	225 "	156 "	19/7 ¹ / ₂ to 19/9	"

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

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IMPORTS OF PETROLEUM PRODUCTS INTO THE UNITED KINGDOM.

Specially prepared for this Journal by the Customs House.

FOR THE WEEK ENDED JULY 21st, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
July. LONDON—				
15	Perkins & Homer ...	Lub.	2,400	St. Vincent
15	Mordaunt Bros. ...	"	4,200	New York
16	Vacuum Oil Co. ...	"	16,430	"
16	Scott's Wharf ...	"	4,000	"
16	W. R. Batten ...	"	5,100	Fiume
16	United Shipping Co. ...	"	410	Riga
17	G. & H. Green ...	Lub. Gr.	280	New York
18	Lubricating & Fuel Oils Co. ...	Lub.	1,067,470	Batoum
18	"	"	2,050	Antwerp
19	Bowring Petroleum Co. ...	Lamp	595,000	P. Mexico
19	Anglo-Mexican Petroleum Products Co. ...	Fuel	966,420	"
19	Produce Brokers Co. ...	Lub.	2,600	Philadel.
19	Valvoline Oil Co. ...	"	5,000	New York
19	Port Authority ...	Fuel	400	Hamburg
21	"	Lub.	2,520	"
21	B. Winstone & Sons ...	"	2,460	"
21	A. Duckham & Co. ...	"	1,000	Antwerp
21	Langley, Smith & Co. ...	"	4,060	Philadel.
21	"	"	4,500	New York
21	Port Authority ...	"	6,400	"
21	F. Chiesman & Co. ...	"	13,030	"
21	Scott's Wharf ...	"	2,500	"
21	Schliemann Oil, etc., Co. ...	"	3,000	N. Orleans
21	Anglo-American Oil Co. ...	Naphtha	1,161,500	Novorossisk
LIVERPOOL—				
15	Vacuum Oil Co. ...	Lub.	1,810	New York
15	Huxley & Co. ...	"	1,040	"
15	Burnaby & Chantrell ...	Lub. Gr.	1,740	"
15	Shropshire Union Railway & Canal Co. ...	Lub.	4,000	"
15	Fellows, Morton & Clayton ...	"	1,130	"
15	J. Light & Sons ...	"	2,720	Baltimore
15	W. B. Dick & Co. ...	"	10,000	"
15	Liverpool Salvage Assoc. ...	"	5,700	"
15	Pickford's ...	Lub. Oil and Paste	220	Hamburg
15	Bowring Petroleum Co. ...	Lub. Gr.	120	"
16	Pickford's ...	Lub. Oil and Paste	190	"
16	C. W. Field ...	Lub.	450	Antwerp
16	W. Gibson & Sons ...	Lamp	2,050	Boston
17	Bennett's Haulage, etc., Co. ...	Lub.	3,190	Philadel.
17	Meade-King, Robinson & Co. ...	"	48,560	"
17	E. Harrison & Co. ...	"	9,200	"
17	Worthington & Boler ...	"	12,800	"
17	Vacuum Oil Co. ...	"	31,210	"
17	"	Lub. Resid	10,720	"
17	Wilkinson Bros. ...	Lub. Gr.	80	Antwerp
18	Crew, Levick & Co. ...	Lub. Resid	7,330	Philadel.
18	"	M. Colza	6,200	"
18	"	Lub.	41,660	"
18	Anglo-American Oil Co. ...	"	31,120	Philadel.
18	"	Lub. Gr.	240	"
19	"	Gas	955,800	"
21	American Line ...	Lub. Gr.	300	"
21	"	Lub.	10,000	"
21	Bramwell Fern & Co. ...	"	1,910	"
21	Stockdale & Doel ...	"	22,300	"
21	Anglo-American Oil Co. ...	"	27,440	New York
21	Pickford's ...	Lub. Oil and Paste	500	Hamburg
BARROW—				
21	British Petroleum Co. ...	Fuel	96,320	Singapore
BRISTOL—				
15	H. Matthews & Co. ...	Lub.	300	Antwerp
16	B. Perry & Sons ...	"	810	"
16	Anglo-American Oil Co. ...	Gas	452,190	Sabine
16	Asiatic Petroleum Co. ...	Benzine	550,000	Singapore
17	First Anglo-Russian Oil Co. ...	Lub.	240	Hamburg
17	Anglo-Bosphorus Oil Co. ...	Lub. Gr.	740	Antwerp
17	Ford & Canning ...	Lub.	13,460	New York
17	C. Hill & Sons ...	M. Colza	4,000	"
17	"	Lub.	17,960	"
18	Pickford's ...	Lub. Oil and Gr.	460	Hamburg
19	W. G. Clarke ...	Lub. Gr.	500	Antwerp
21	Anglo-Bosphorus Oil Co. ...	"	800	"
July. CARDIFF—				
16	Bristol Steam Navig. Co. ...	Lub. Oil and Gr.	790	Antwerp
16	Furness, Withy & Co. ...	Lub.	950	"
GLOUCESTER—				
21	Bristol Steam Navig. Co. ...	"	760	Hamburg
GRIMSBY—				
17	J. Sutcliffe & Son ...	"	690	"
18	"	"	280	Antwerp
HARWICH—				
17	Great Eastern Railway ...	"	600	"
19	"	"	400	"
HULL—				
17	T. Wilson, Sons & Co. ...	"	2,720	Riga
17	"	"	2,000	S. Petersburg
17	"	"	800	Bergen
17	Wilson's & N. E. Railway ...	"	520	Hamburg
17	"	"	80	Antwerp
19	T. Wilson, Sons & Co. ...	"	960	Genoa
19	"	"	12,240	New York
MANCHESTER—				
5/5	British Petroleum Co. ...	Gas	19,050	Port Arthur
8/5	"	Fuel	23,910	Kustendje
15	C. H. Morton & Son ...	Lub.	2,000	Philadel.
15	G. B. Taylor ...	"	18,600	"
15	Bramwell Fern & Co. ...	"	16,400	"
16	Meade-King, Robinson & Co. ...	"	65,320	"
16	Bramwell Fern & Co. ...	"	18,590	"
16	Fellows, Morton & Clayton ...	"	2,830	"
16	Pickford's ...	"	90	Hamburg
16	W. Hodgson & Co. ...	"	780	Riga
16	J. T. Fletcher & Co. ...	"	250	Antwerp
17	Liverpool Storage Co. ...	"	7,500	Philadel.
17	"	M. Colza	1,340	"
17	Worthington & Boler ...	Turps. Sub.	3,000	"
17	Liverpool Storage Co. ...	Lub.	17,100	New York
17	W. W. Jones, Dooly & Co. ...	Lub. Gr.	3,200	Boston
18	G. B. Taylor ...	Lub.	84,000	New York
18	"	"	5,200	Philadel.
19	D. Currie & Co. ...	Lub. Gr.	280	Hamburg
19	Vacuum Oil Co. ...	Lub.	300	"
21	F. Schofield & Co. ...	"	15,120	New York
MIDDLESBROUGH—				
19	E. Harris & Co. ...	"	2,000	Antwerp
NEWCASTLE—				
15	P. H. Matthiessen & Co. ...	"	430	Bergen
NEWPORT—				
15	M. Jones & Co. ...	"	500	Antwerp
SWANSEA—				
17	Burgess & Co. ...	"	480	Hamburg
21	R. Turpin ...	"	4,400	New York
ABERDEEN—				
15	R. C. Reid & Co. ...	"	1,400	Hamburg
DUNDEE—				
15	D. Alexander & Sons ...	"	200	"
GLASGOW—				
15	Clyde Shipping Co. ...	Lub. Oil and Gr.	2,200	Antwerp
16	Allan Bros. & Co. ...	Lub.	52,750	Philadel.
21	Anchor Line ...	"	16,920	New York
GRANGEMOUTH—				
17	Jas. Currie & Co. ...	"	1,160	Hamburg
18	"	"	600	"
GRANTON—				
18	Asiatic Petroleum Co. ...	Benzine	434,000	Rotterdam
LEITH—				
16	Jas. Currie & Co. ...	Lub.	120	Hamburg
16	W. G. Yooll & Co. ...	Lamp	2,180	"
BELFAST—				
16	J. C. Pinkerton & Co. ...	Lub.	200	"
16	G. Heyn & Sons ...	"	3,150	N. Orleans
21	Anglo-American Oil Co. ...	Gas	656,480	Sabine
CORK—				
14	P. Murphy & Co. ...	Lub. Oil and Gr.	320	Hamburg
			7,770,380	
Deduct—				
BARROW—				
5/5	Anglo-American Oil Co. ...	Fuel	10,950	Kustendje
			7,759,430	

From Lloyd's

JULY 24TH, 1913.

THE "REVIEW" SHIPPING LIST.

The following abbreviations are used in this table:—L. Left. Pd. Passed. Arr. Arrived. Sp. Spoken. T. Trading. Cl. Cleared. The Anglo-American Co.'s vessels marked thus (*). The Anglo-Saxon Co.'s tankers thus (Δ). Messrs. Lane & Macandrew's thus (□).

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
ADORNA	San Francisco	Pisagua	Arr. June 18	DAKOTAH* (now named Kanakuk)			
AMERICAN	Antwerp.....	New York ...	Arr. July 19	DANUBIAN □	London	Port Arthur..	Pd. Lizard July 20
APPALACHEE*	Liverpool ...	Kurrachee ...	L. July 8				
APSCHERON	Venice	Batoum	Pd. Constanti- nople July 20	DAYLIGHT (Br. Bq.)	Philadelphia.	Hiogo	Arr. May 1
ARAL	Philadelphia.	Rotterdam ...	L. July 12	DELAWARE*	Barrow	Novorossisk..	L. July 17
ARAS	Sabine	Swinemunde	Arr. July 22. To sail July 24 for Tyne	DELAWARE SUN (American Schooner)	Sabine.....	Marcus Hook	306 miles W. of Tortugas July 11
ARCA	London	Soesoe.....	Arr. July 20	DERBENT	London	Tyne	Pd. Southend July 21
ARTHUR VON GWINNER	—	—	Launched Eins- warden Dec. 24. Since complet'g	DEUTSCHLAND	Rotterdam ...	New York ...	L. July 21
ASHTABULA*	San Francisco	Pisagua	Arr. ab't June 25	DIAMANT	Rotterdam ..	New York ...	Sp. July 19, 44-32 N., 40-23 W.
ASTRAKHAN	Tyne	Philadelphia.	Pd. Dunnet Hd. July 16	EL LOBO	Lobitos	San Francisco	Arr. July 11
AUREOLE	Hamburg ...	Norfolk, Va.	Pd. Dungeness July 17	EL SEGUNDO	Vancouver...	San Francisco	L. July 21
AZOV	Payta	Callao.....	Arr. ab't July 8	EL TORO	Tyne	Kustendje ...	Pd. Gibraltar July 18
BAKU STANDARD...	Norfolk	Sabine.....	L. July 21	ELAX Δ	Saitozaki ..	Balek Pappan	Arr. July 20
BALAKANI □	Port Arthur	Dublin & Manchester	L. July 17	ELISE MARIE	New Orleans	Gothenberg	Pp. Dunnet Hd. July 23
BATOUM	Hull	New Orleans.	L. Newport News July 21	EMANUEL NOBEL...	Kustendje ...	Hamburg ...	Pd. Dover July 21
BAYONNE	Kustendje ...	Savona	Pd. Dardanelles July 20	ENERGIE	Campana ...	Tampico	Arr. MonteVideo June 26
BEACON LIGHT	—	—	Pd. St. Abbs Hd. July 21 bound S.	ERIVAN	Hamburg ...	Kustendje ...	Arr. Malta July 16
BLOOMFIELD	Port Arthur..	Amsterdam ..	L. July 18	ESTURIA	Rangoon.....	Bombay	L. July 18
BORJOM.....	Alexandria...	Batoum	L. July 16	EUPLECTELA Δ	Granton	Tyne	Arr. Feb. 28. In port July 21
BRILLIANT (Br. Bq.)	Philadelphia.	Hiogo	Pd. Anjer June 27	EXCELSIOR	New York'...	Hamburg ...	L. July 19
BRILLIANT	Philadelphia.	Copenhagen..	L. July 19	F. A. TAMPLIN	Sabine.....	Norfolk, Va. & U. Kingdom	L. July 17
BRITISH SUN	Batoum	Antwerp.....	Pd. Gibraltar July 22	FRANCE MARIE.....	Port Arthur.	Tampico	L. July 13
BROADMAYNE	Calais	New York ...	Arr. July 20	(Belgian Ship)			
BUFFALO	Shanghai ...	San Francisco	L. July 6	FUMI MARU	Tarakan	Sourabaya ...	Arr. June 21
BULLMOUTH Δ	Calcutta	Aroe Bay ...	L. July 19	GEESTEMUNDE	Tampa	Tampico	L. July 5
BULYSESSES Δ	Batoum	Singapore ...	Pd. Perim July 22	GENESSE*	Sunderland ..	New York ...	L. July 6
BURGERMEISTER PETERSEN	Copenhagen	Baton Rouge	Pd. Dunnet Hd. July 16	GEORGIAN PRINCE	Philadelphia.	—	L. July 16
C. A. CANFIELD* ...	Baltimore ...	Tampico	L. Sabine July 11	GOLDMOUTH Δ	Singapore ...	Gibraltar ...	L. Suez July 22
CALCUTTA (Br. Bq.)..	San Francisco	Yokohama ...	L. July 5	GUTHEIL	Tuxpan	—	Sunk after collision at Baton Rouge April 28
CAMILLO	Chinwantas	Balek Pappan	L. July 20	H. C. HENRY.....	Amsterdam ..	Seattle	Arr. St. Vincent, C.V., July 18
CAPTAIN A. F. LUCAS	—	—	T. United States, Pacific	HAGEN	New York ..	Hamburg ...	Arr. July 19. In port July 22
CARDIUM Δ	Singapore ...	Gibraltar ...	L. July 13	HAINAUT (Barge) ...	—	—	T. between Tampico and Aransas Pass
CARPATHIAN □	Manchester ..	Kustendje ...	Pd. Dardanelles July 23	HARPORT	San Francisco	Callao	Arr. July 17
CAUCASIAN □	Port Arthur & Newport News	London	Arr. July 14. In port July 23	HARRY	Tampa	Norfolk, Va.	Pd. Diamond Shoal July 7
CHARLOIS.....	New York ...	Rotterdam ...	Arr. June 28. In port July 22	LUCKENBACH	Jacksonville.	—	L. July 16
CHATHAM.....	New York ...	Tampico	Pd. Sand Key July 8	HARRY WADSWORTH*			
CHESTER	Antwerp.....	New York ...	Arr. July 12	HELIOS	Baton Rouge	Copenhagen	L. July 15
CHEYENNE	Novorossisk..	Thames Haven	Arr. July 21	HERA	Copenhagen & Tyne	New York ...	Pd. Cape Wrath July 20
CIRCISSIAN PRINCE	—	—	T. W.C. South America	HERBERT G. WYLIE	Tampico.....	New York ...	Arr. July 15
CITY OF EVERETT	New York ...	Tampico	L. July 14	HERMIONE	London	Port Arthur.	Pd. Lizard July 21
CLAM Δ	Rotterdam ...	Batoum	L. Algiers July 21	HESPERUS	Tuxpan	Baton Rouge	Ashore River Mississippi July 19
CLEARFIELD	Tuxpan	New York ...	Arr. July 22	HORLEY	Port Arthur.	Rio Janeiro...	Arr. July 19
CLIO.....	Baton Rouge	Swinemunde	L. July 14	HOTHAM NEWTON	New York ...	Alecanto & Barcelona	L. July 15
COMANCHEE	Manchester ..	Sabine	Pd. Bermuda July 22	HYRCANIA	Hull	Constanti- nople	Pd. Gibraltar July 18
CONCH Δ	Suez	Abadan	Arr. July 16	IMPEROYAL	St. John, N.B.	Quebec	Arr. June 3
CONRAD MOHR	New Orleans	Norfolk, Va. & Christiania	L. July 18	IMPOCO	Grangemouth	New York ...	Arr. July 21
CORDELIA	Taltal	Los Angeles.	Arr. July 9	IOANNIS COUTZIS...	—	—	On Govt. Service
COWRIE Δ	Rangoon.....	Seattle	L. Hong Kong July 22	IROQUOIS* (Towing Barge Navahoe)	Philadelphia.	London	Anchored off the Nore July 24
CURRIER ...	Philadelphia.	Matanzas ...	55 miles N. of Jupiter July 15	J. B. AUG. KESSLER	San Francisco	Shanghai ...	Arr. July 18
CUYAHOGA*	Sabine & Norfolk, Va.	—	Pd. Perim July 17	JULES HENRY	Marseilles ...	Rotterdam ...	Arr. May 24. In port July 22
CYMBELINE	Kustendje ...	Rouen	Pd. Gibraltar July 19	(Fr. Bq.)			
CZAR NICOLAI II...	Hamburg ...	Batoum	Pd. Sagres July 19	JULIUS RUTGERS...	Emden	Horsens	L. July 11
DAGHESTAN	Batoum	Manchester...	Pd. Dardanelles July 22	JUNO	—	Palembang ...	Arr. July 18
				KANAKUK	Hong Kong	San Francisco	Arr. July 14
				KASBEK.....	Tyne ...	Vigo.....	Pd. Dover July 18
				KIYO MARU.....	Callao.....	Hong Kong..	L. Honolulu June 13

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
KOMETA	Kustendje ...	Barrow	Pd. Gibraltar July 22	ROMANY Δ	Singapore ...	Rotterdam ...	Arr. July 22
KREMLIN (late Snowflake)	Venice	Batoum	Pd. Constanti- nople July 18	ROSALIND	Port Arthur..	Christiania...	L. July 13
KURA	Sabine	Dantzig	L. July 21	ROTTERDAM	Amsterdam...	New York ...	Arr. July 23
LA CAMPINE	Tyne	Philadelphia.	Cl. July 22	ROUMANIAN □	London	Sabine	Pd. Prawle Pt. July 19
LA FLANDRE	Antwerp	Philadelphia.	Pd. Lizard July 22	ROUMANIAN PRINCE	Baltimore ...	—	L. July 21
LA HESBAYE	Antwerp	Philadelphia.	Pd. Scilly July 22	RUSSIAN PRINCE ...	Galveston ...	Tampico	L. July 11
LACKAWANNA*	London	Philadelphia.	135 miles W. of Lizard July 18	SALAHADJI Δ	Colombo	Abadan	L. July 6
LE COQ □	Gijon	New York ...	Arr. July 23	SAMOSET (late Cadillac)	Sabine & Norfolk	Bombay	Pd. Cape Henry July 14
LEUTSCH	Kustendje ...	Alexandria ...	Arr. ab't July 17	SAN ANTONIO	—	—	T. Mexican Coast
LUCELLUM	—	—	Launched Wear June 14, since completing	SAN BERNARDO ...	—	—	T. Mexican Coast
LUCERNA	Rotterdam ...	Kustendje ...	L. Algiers July 19	SAN CRISTOBAL ...	—	—	T. Mexican Coast
LUCIGEN	Norfolk, Va..	Portsmouth..	L. July 17	SAN DUNSTANO	Norfolk	Thames Haven	Arr. July 22
LUCILINE □	Philadelphia.	Havre Roads.	Pd. Delaware B'water July 14	SAN EDUARDO	New York ...	—	L. July 17
LUMEN	Novorossisk ..	—	Pd. Dardanelles July 23	SAN FRATERNO	Puerto Mexico	United Kingdom	L. July 7
LUTETIAN □	Rouen	Novorossisk..	L. July 23	SAN GREGORIO	—	—	Launched Tyne June 5. In port July 21
LUX □	New York ...	Barcelona ...	Arr. Tarragona July 23	SAN RICARDO	Tees	New Orleans	Arr. July 21
MAKKAVEI	Marseilles ...	Odessa	Arr. June 29	SAN SILVESTRE	Tyne	Philadelphia.	Arr. July 20
MANNHEIM	Baton Rouge	Hamburg ...	Arr. July 19	SANTA RITA	Port San Luis	Bilbao	L. May 25
MARGARETHA	Philadelphia.	Avonmouth.	Cl. July 14	SARANAC* (now named Satanta)	Calcutta	New York ...	L. June 10
METEOR	Vladivostock.	Batoum ...	Arr. Singapore ab't July 7	SAXOLEINE	Rouen	Tyne	Arr. July 23
MEXICAN PRINCE..	Hong Kong..	Balek Pappan	L. July 18	SEBASTIAN	—	—	Launched Dun- dee April 24, since compltg.
MIJDRECHT	Kustendje ...	Vlaardingen.	Arr. July 23	SERMINOLE* (now named Wabasha)	—	—	—
MINA BREA	San Francisco	Talara Bay..	L. July 10	SERVIAN □	Port Arthur..	Amsterdam...	L. July 12
MIRA	Kustendje ...	Brunshausen.	Arr. July 18	SHWEDAGON	Rangoon	Bombay	L. June 25
MITRA	Batoum	Port Said ...	Arr. July 24	SIoux	New York ...	Tuxpan	Pd. Sand Key July 13
MOHAWK*	Mexico	New York ...	Arr. June 25. In port July 22	SIRIUS (Ger.) ...	New Orleans.	Rotterdam ...	Pd. Lizard July 23
MUREX Δ	Sydney	Balek Pappan	Ashore ab't July 18, 6 N. 119 E.	SOCONY	New York ...	Tampico	L. June 10
NARRAGANSETT ...	London	New York ...	125 miles S.W. of Brow H'd July 14	STANDARD	New Orleans.	Tuxpan	L. Port Eads July 8
NATICA	Thames Haven	Rangoon	L. Colombo July 17	STROMBUS Δ	Port Arthur.	Sheerness ...	L. July 15
NEKO	Hamburg ...	Leith	Arr. July 6. In port July 22	SULTAN VAN LANGKAT Δ	Balek Pappan	Singapore ...	L. July 18
NELSON	Port Arthur..	Philadelphia.	L. July 5	SUN	Sabine	Marcus Hook	306 miles W. of Tortugas July 11
NEW YORK*	Rotterdam ...	New York ...	Pd. Prawle Pt. July 19	SUNLIGHT (Br. Bq.)	Boston	Macoris	Arr. July 12
NIAGARA	Shanghai ...	San Francisco	Arr. July 24	SURAM	Immingham.	New Orleans.	L. July 15
NORMAN BRIDGE...	Sabine	Tampico	L. July 13	SUWANEE*	Liverpool ...	Kustendje ...	L. July 22
OBERON	Tocopilla ..	San Pedro ...	Arr. July 16	TAMARAC* (now named Sequoya)	Moji	San Francisco	Arr. July 11
OCEAN	Amsterdam..	New York ...	L. July 23	TARAKAN	—	—	T. East Indies
OILFIELD	Alexandria..	Novorossisk..	Arr. July 23	TECUMSOH	New York ...	Tampico	L. July 9
ORIFLAMME □	Kustendje ...	Havre Roads	Pd. Dardanelles July 19	TELENE Δ	Singapore & Portishead	Barrow	Arr. July 21
OSAGE	Tyne	Baton Rouge	Arr. July 13	TEREK	Cardiff	Philadelphia.	Arr. July 20
OTTAWA*	London	Kustendje ...	Pd. Ushant July 20	TEXAS	Antwerp	Port Arthur..	L. July 21
OURAL	Batoum	Dunkirk	Arr. July 22	TIFLIS	Tyne	Constanti- nople	Pd. Gibraltar July 19
PATELLA Δ	Rotterdam ...	Tyne	Arr. July 10. In port July 21	TONAWANDA*	Belfast	Maryport ...	L. July 23
PAUL PAIX	Calais	Hull	Arr. July 23	TRINCULO	Victoria, B.C.	Port San Luis	Arr. July 6
PAULA	Dantzig	Philadelphia.	L. Tyne July 12	TRINIDADIAN	Port Tampa..	New York ...	Arr. June 27. In port July 12
PECTAN	Antofagasta..	Port San Luis	Arr. July 23	TRITON	Baton Rouge	Hamburg ...	L. Newport News July 15
PENNOIL	Port Arthur..	Dover	L. Norfolk, Va., July 11	TROCAS Δ	Abadan	Saitozaki ...	L. Singapore July 12
PETROLEINE	Cette	Algiers & New York	L. July 21	TURBO	Singapore ...	Gibraltar ...	L. Sabang July 19
PHOEBUS	San Francisco	Tocapilla ...	Arr. July 12	TUSCARORA (now named Powhatan,	which see)	—	—
PINNA □	Avonmouth..	Cardiff	Arr. July 16. In port July 23, for Port Arthur	UNCAS	New York ...	Port Said ...	L. July 13
POTOMAC*	New Orleans.	Sabine	L. Port Eads July 4	VEDRA	Port Arthur.	La Pallice & Rouen	L. Norfolk, Va., July 20
POWHATAN (late Tuscarora)	San Francisco	Muroran	560 miles from San Francisco June 30	VILLE DE DIEPPE (Norwegian Barque)	New York ...	La Pallice ...	L. July 9
PROMETHEUS	Galveston ...	Tampico	Arr. July 2	VOLCANUS	Tjilatjap ...	Palembang...	L. July 18
PRUDENTIA	New York ...	—	L. July 2	VOLUTE Δ	Singapore ...	Shanghai ...	L. July 9
PURELIGHT	Philadelphia.	Dover	Pd. Dungeness July 21	WABASHA (late Seminole)	San Francisco	Moji	L. June 20
QUEVILLY (Fr. Bq.)	New York ...	Rouen	L. July 10	WANETA (lt. Impoco)	New Orleans	Tampico	Arr. June 20
RADIOLEINE II. ...	Rouen	Braila	Pd. Dardanelles July 17	WASHINGTON	Sabine & Norfolk, Va.	Bombay	Arr. Port Said July 19
RANELLA	Singapore ...	Gibraltar ...	L. July 20	WEEHAWKEN	Kustendje ...	Antwerp	Pd. Peniche July 22
RENDOVA (Br. Bq.)	Seville	New York ...	L. Bonanza June 6	WILLIAM F. HERRIN	Honolulu ...	Port San Luis	1,135 miles from Monterey July 9
RION	Port Said ...	—	Pd. Dardanelles July 23	WILLKOMMEN	New York ...	Oxelosund ...	L. July 11
ROCK LIGHT □	Port Arthur..	Rotterdam ...	Arr. July 20. In port July 22	WINNEBAGO	San Francisco	Yokohama...	Arr. July 1
				WOTAN	Rotterdam...	Port Talbot..	Arr. July 23

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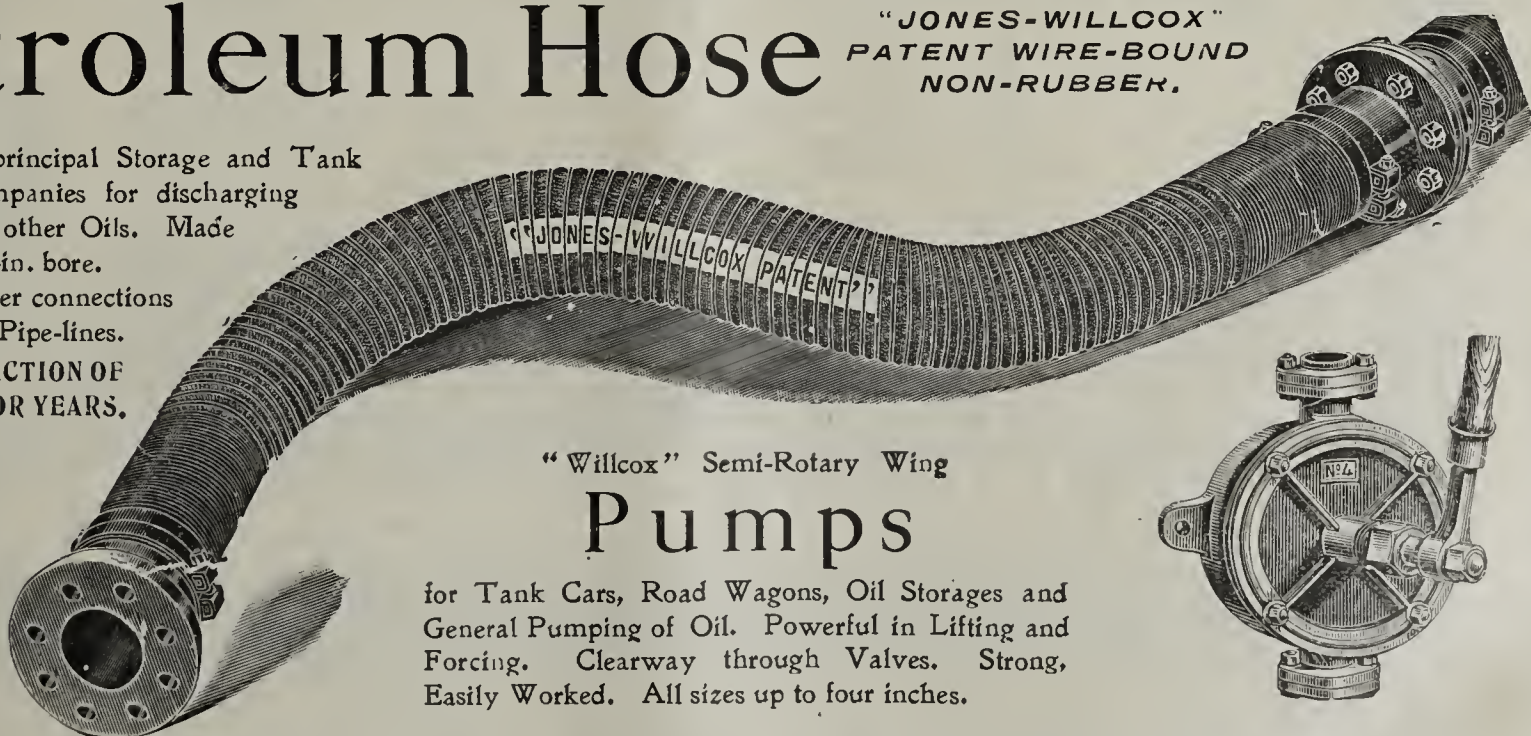
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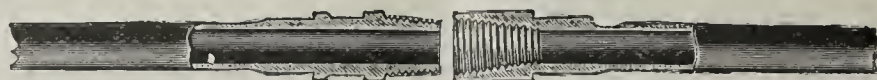


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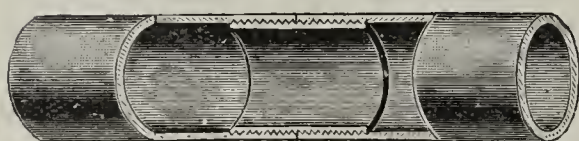
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Editorial Notes.

Postponement of the Bucarest Conference of the Petroleum Committee.

OWING to the general unrest in the Balkan States it has been decided to postpone the Conference of the International Petroleum Committee which was to have been held at Bucarest next October. The arrangements for the great gathering were well advanced, and inasmuch as Government support had been promised upon something approaching a lavish scale, it is a pity that at such a late hour in the day the projected conference should have to be postponed for the present. It is pretty safe to conjecture, however, that before next January, when the Conference will be held, better counsels will prevail throughout the Balkan States, in which case the conference will be held under happier auspices than are at the moment possible.

The Trend of Events in Russia.

THERE is something consoling and comforting in the details which we publish elsewhere in this issue of the progress of the Russian petroleum industry during the first half of the present year, for the figures show that as compared with the output for the first half of 1912 the crude oil production for January-June this year has slightly increased. The Russian Empire for the first half of the present year has produced approximately 280,000,000 poods of crude oil, or about 5,000,000 poods more than during the corresponding period twelve months ago. Whatever shortcomings, therefore, may be hurled at some of the territories under active exploitation, the total result is gratifying, particularly as it shows the prolific nature of the Grosny fields and several of the new regions which have only lately appeared as commercial producers. The Surakhany and Binigadi regions are materially improving their output, while in other fields drilling is progressing on a scale which suggests an early increase in the production. After all, one is inclined to forget that one cannot have a good production and high prices running hand in hand, and far better have a moderate

production with good prices than a prolific flow of oil whose market value scarcely covers administration expenses.

Russian and Roumanian Petroleum on the German Markets.

THE recent formation of the Bavarian Lloyd Shipping Company, the object of which is to promote the goods traffic between the Black Sea and the Balkan States and Southern Germany along the Danube, is creating much interest in petroleum circles on the continent, inasmuch as the goods which the company hopes to carry consists mainly of petroleum. Hitherto the import of petroleum from Russia and Roumania by way of the Danube has been only of small dimensions owing to the fact that the German companies established for the sale of petroleum entered into a contract in 1907 with the German branch of the Standard, and naturally the latter company was disinclined to encourage the transport of petroleum from Russia and Roumania along the Danube. Consequently, practically no petroleum has been imported into Germany via this route, though the quantity of petroleum products transported on the Danube has gradually increased. Now that the Supreme Court at Leipzig has nullified the contract, the import of Russian and Roumanian petroleum by way of the Danube is to be encouraged. The promoters of the Bavarian Lloyd estimate that upwards of 300,000 tons of Russian and Roumanian petroleum can be disposed of in the districts served by the Danube, and though this estimate may be somewhat exaggerated, it is considered certain that the petroleum transported along the Danube can be sold in those districts cheaper than the petroleum brought round by the Mediterranean.

Lack of Transport Facilities in Roumania.

THE full effect of the lack of transport facilities on the Roumanian railways in consequence of the disorganisation occasioned by the recent mobilisation is now being felt by the petroleum industry. It has proved far more serious than was at first conjectured; in fact, the leading producers and refiners view the present position with such alarm that they have petitioned the government to provide even a modified arrangement of transport. With a total stoppage, such as is now existing, not only is production reduced, but the refineries, unable to find ample storage facilities for the refined products are on the point of shutting down until the railway transport facilities are re-opened. The petition points out that the position, if allowed to continue, will affect thousands of oilfield workers and others dependent upon the petroleum industry for their living; therefore the government should use their best endeavours to bring about a resumption of oil traffic on its railway systems. In view of the friendly relations existing between the government and the petroleum industry, it is expected that transport facilities will be provided without further delay.

KERMODE'S PATENT LIQUID FUEL SYSTEMS.

WE are in receipt of Messrs. Kermode's latest brochure dealing with the firm's patent systems for the production of power by liquid fuel firing. In connection with the utilisation of liquid fuel for boilers, the name of Mr. J. J. Kermode stands far ahead of all others, and as far back as 1902 he demonstrated to the British Admiralty the economies which were to be effected by burning oil exclusively under water-tube boilers, and to-day all the leading ships of the British Navy use the Kermode system, which is also very popular with the Dutch, Argentine and Chinese governments. There is much in the booklet which is of great interest to all who wish to study this important subject of oil firing, and we should commend our readers to obtain a copy direct from Messrs. Kermode, Ltd.

LAUNCH OF S.S. "PAWNEE."

ON Thursday afternoon there was successfully launched from the Hebburn Shipyard of Palmer's Shipbuilding & Iron Company, Ltd., the oil tank steamer "Pawnee," built to the order of the Deutsch Amerikanische Petroleum Gesellschaft of Hamburg.

The vessel, which is a sister ship to the "Osage," launched from the same yard in May last, is over 380 ft. long and will carry a deadweight of over 7,300 tons on a light draft. She is built on the Isherwood system of framing and classed 100 A1 Lloyds under special survey, fitted and finished to the Seemanns-ordiong and See-Berufsgenossenschaft and to Suez Canal requirements. The oil compartments are divided into seven pairs of tanks, two cofferdams and pump room, the latter being placed at fore side of bridge with entrance from upper deck; the oil tanks arranged below main deck with trunk built the whole length of oil tanks between main and upper decks; summer tanks arranged at sides of trunk the whole length of tanks; cargo hold at fore end of oil tanks, and water ballast carried in cellular double bottom under engines and in fore and after peaks. She is rigged as a two-masted fore-and-aft schooner; has straight stem and elliptical stern, and long poop, bridge and forecastle, having a fore-and-aft gangway on centre line between erections; accommodation for captain and officers with saloon is provided in houses on the bridge deck, with chart and wheel house above; the engineers and firemen being in poop aft and the seamen in the forecastle.

The vessel is to be supplied by Palmer's Company with quadruple expansion engines, steam being supplied by two single-ended boilers, arranged to burn coal or oil fuel, working at a pressure of 215 lbs. per square inch, also a donkey boiler fitted in casing for supplying steam to the auxiliary machinery.

During her construction the vessel has been inspected on behalf of the owners by Messrs. Atkinson, Young & Robson, of Newcastle and Liverpool.

The vessel was gracefully christened "Pawnee" by Mrs. R. Woods of London, and among those present were Mr. Reginald Woods, of the Anglo-American Oil Company, Mr. J. F. Wakeham, Mr. Hewitson Hall, Mr. J. J. Atkinson, Mr. and Mrs. N. E. Robson and Miss Robson, Captain Schroder, Mr. James Schroder, Mr. J. H. Hutchison, Mr. and Mrs. J. L. Twaddell and Miss Twaddell, Mrs. P. N. B. Haggie, Miss Robson, Mr. and Mrs. H. C. Broadhurst, Mrs. W. J. Arkle, Mr. T. Avery, Chief Contractor, Bombay Dockyard, and Mrs. Avery, Mr. and Mrs. W. R. Wilson, Mr. and Mrs. Brunton Angus, Mr. and Mrs. W. Davidson.

After the launch, which was entirely successful, the guests adjourned to the Company's dining room, where luncheon was served, when the usual toasts were proposed and a presentation of a memento of the occasion made to Mrs. Woods.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended July 26th was 106,000 poods.

SPIES PETROLEUM COMPANY, LTD.—Production, week ended July 27th, including 7,295 poods from ambars, was 242,070 poods, or about 3,904 tons. The total production for the year, from Jan. 14th to July 27th, was 7,994,690 poods, or about 128,947 tons. The total production for the corresponding period last year was 9,240,585 poods, or about 149,042 tons. Price of crude oil at Baku, 44 copecs per pood.

THE MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended July 26th was 11,279 poods (182 tons).

THE EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended July 27th was 98,200 poods, or 1,583 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended July 26th was 131,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended July 26th was 31,152 poods (502 tons).

THE MAIKOP SPIES COMPANY, LTD.—The production of this company for the week ended July 27th was 10,065 poods, or about 162 tons.

MAIKOP NEW PRODUCERS, LTD.—Production for week ended July 26th was 8,400 poods, or 135 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended July 27th was 15,376 poods, or 248 tons.

NEW SCHIBATIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended July 26th, 120,530 poods or 1,944 tons.

THE NORTH CAUCASIAN OIL FIELDS, LTD.—Production for the week ended July 29th was 185,000 poods, or 2,984 tons. Corresponding period last year, 574 tons. Total production to date for this year, 52,995 tons, last year 15,373 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended July 27th was 79,400 poods, or 1,241 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended July 26th was 4,340 poods.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended July 26th was 4,589 poods.

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended July 27th was 3,075 poods (50 tons).

GERHARD & HEY,
OILFIELDS SHIPPING AGENTS,
Great St. Thomas Apostle
 (Off Cannon Street),
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PARLIAMENT AND LIQUID FUEL.

SOME INTERESTING QUESTIONS AND EXPLANATIONS.

(By our own Representative.)

HOUSE OF COMMONS,

Thursday Evening.

THE subject of liquid fuel continues to be one of the principal topics of conversation in the House, and during the present week daily reference has been made, in one or other form, to the important question.

The matter was first raised during question time on Monday, when Lord Charles Beresford inquired of the First Lord of the Admiralty if he would give to the House any information as to the specification of oil as to flash point, etc., when liquid fuel was first introduced into the Navy, and the specification at the present time. He further asked Mr. Churchill if it were a fact that the flash point had been altered considerably during the past twelve months, and if so, to what extent.

Mr. CHURCHILL gave his answer as under:—The flash point of oil was fixed at 250° Fah. in 1902, but was reduced to 200° Fah. in 1903. In 1912–13, as a result of expert advice and experiment, it was decided to reduce the flash point to 175° Fah., except in the case of light shale and distillate oils, for which a flash point of 200° Fah. is still retained. I may mention that Lloyd's standard is 150° Fah. (close test), and under certain precautions an even lower flash is permitted to be used in merchant ships.

Mr. FELL inquired of the First Lord of the Admiralty later in the day if the contracts to be made for the supply of oil would be made only with companies registered in England or with firms established in the United Kingdom.

Mr. CHURCHILL.—In the great majority of cases the large producing companies, if not themselves registered in the United Kingdom, either have branch offices here or British firms acting as their agents. The Admiralty is in no way precluded, however, from making a contract direct with a foreign producing company whenever such a course is advantageous.

Mr. FELL.—Would not grave difficulties arise in the event of war if we have contracts running with firms or companies in foreign countries?

Mr. CHURCHILL.—That aspect is borne in mind by the Admiralty.

On Tuesday Mr. G. TERRELL raised the question of the recent disclaimer by the First Lord of the Admiralty as to dealings by members of the Admiralty in regard to oil shares. He asked whether the disclaimer of the Board of Admiralty, that they had had no dealings or interests in the shares of oil companies, was first suggested by him as a proper course to be taken to the Board, and if not, by which of the Lords of the Admiralty.

Mr. CHURCHILL.—I proposed to the Board of Admiralty that a statement of our disinterestedness should be made to Parliament, and my naval and civil colleagues willingly associated themselves with me in making it. We considered that, in view of the wide discretionary and confidential powers we are using on the one hand and the prevalence of rumours and suspicions on the other, it would be a good thing for the House and the public to receive such an assurance.

Mr. HUNT asked the Secretary for the Colonies whether the terms of agreement with or concessions to oil trusts or combines operating in British territory, or territories under British protection, had included, or would include, a clause providing that a stated number of tons of oil shall be reserved for the use of the British Navy at a price calculated on the cost of production in addition to a charge of 10 per cent. to cover interest on capital.

Mr. HARCOURT.—I would refer the hon. gentleman to the stipulations contained in Clauses 12 to 16 of

Part VII. of the schedule to the lease scheduled to the agreement in Command Paper 6861. These stipulations as to pre-emption in time of war and emergency and control of works are so far considered sufficient by the Admiralty to safeguard the interests of his Majesty's Navy, but the question of adopting further safeguards, especially in regard to the obtaining of crude oil at reasonable prices, will be kept constantly in mind.

Mr. HUNT.—Will the right hon. gentleman say whether anything has been done to meet it in view of the fact that it is constantly in mind, and, if nothing has been done at present, why has the right hon. gentleman neglected his obvious duty?

Mr. HARCOURT.—Perhaps the hon. gentleman will obtain some information as to the performance of my duties if he will consult Clauses 12 to 16 of Part VII. of the schedule to the lease scheduled to the agreement in Command Paper 6861.

Mr. HUNT asked the Secretary for the Colonies whether any agreement was in existence relating to British territory or territory under British control, operated by an oil trust or combine, which contained a stipulation for the reserve of oil for the British Navy without stating the price at which the oil so reserved should be delivered to the agents of His Majesty's Government; and whether, if there was such a clause, there was anything to prevent the oil concessionaires thus favoured from charging 20s. a gallon in time of war to the British Government.

Mr. HARCOURT: The agreement which embodies the policy of His Majesty's Government with regard to the stipulations that are considered necessary in the interests of His Majesty's Navy will be found in command Paper 6861. It is provided in Clause 15 of Part VII. of the schedule to the lease printed in that paper that in default of agreement the price to be paid for oil taken compulsorily by the Governor shall be referred to two arbitrators. I am not aware of the existence of any agreement which would have the effect apprehended by the hon. gentleman in the last part of his question.

The subject of the development of the Scottish shale oil resources has also been touched upon during the week, for on Wednesday afternoon Major HOPE asked the First Lord of the Admiralty if he was taking any steps to promote and encourage the full development of the resources of the Scottish shale fields, and whether, in view of the strategic advantage of using for the Navy as far as possible oil fuel produced in the United Kingdom, he would, in negotiating contracts, give treatment to British oil-producing companies preferential to that accorded to the Mexican Eagle and other foreign oil companies.

Mr. CHURCHILL replied that the best means of securing the development of shale and all other oil fuel supply had received and would continue to receive careful consideration. All pertinent considerations would be taken into account in the negotiations for the supply of oil.

Mr. GRETTON (U., Rutland) asked the Prime Minister if the Cabinet was consulted previous to the adoption of oil as the only fuel for the battleships of the 1912 programme, or if the change of fuel was decided and adopted without the knowledge of the Cabinet.

Mr. ASQUITH said that oil was first adopted in 1904, and had been gradually increased since that time. The decision to build five battleships for consuming oil was only a comparatively small addition, and was no new departure. It was not desirable to state what questions were considered by the Committee of Imperial Defence. The Government as a whole took full responsibility for the decision.

THE RUSSIAN PETROLEUM INDUSTRY.

A REVIEW OF OPERATIONS DURING THE FIRST HALF OF 1913.

THE total production of petroleum during the first half of the year in the Russian oilfields amounted to 279,500,000 poods, as against 275,100,000 poods obtained during the corresponding period of 1912, showing an increase of 4,400,000 poods. The production in the various districts during the two comparative periods was as under :—

	Six months, 1912.	Six months, 1913.
	Poods.	Poods.
Baku (old areas)	204,400,000	203,800,000
Hand-dug wells	6,000,000	7,000,000
Surakhany	14,700,000	17,900,000
Binagadi	4,800,000	6,000,000
Sviatoi Island	1,400,000	2,200,000
Total for Baku district	231,300,000	236,900,000
Cheleken Island	6,500,000	4,000,000
Grosny	32,000,000	36,000,000
Maikop	5,300,000	2,600,000
Grand total	275,100,000	279,500,000

The production on the main Baku areas shows a slight decrease notwithstanding the considerable increase in the number of wells in exploitation, which have increased from 2,363 during the first half of 1912 to 2,644 in 1913, or, in other words, the productivity of the wells has decreased. The average daily yield per well amounted during the whole of 1912 to 472 poods, in January, 1913, to 438 poods, in February 435, March 426, April 423, and in May to 421 poods.

There was during the recorded period only a little spouting, namely, of 1,900,000 poods.

The production of the principal Baku fields during the half year has been as under :—

	Six months, 1912.	Six months, 1913.
	Poods.	Poods.
Aramazd	2,600,000	3,300,000
Assodullaef	3,300,000	3,600,000
Baku Petroleum Company	9,000,000	9,700,000
Baku Russian Petroleum Company	3,400,000	3,160,000
Bebe-Aibat Petroleum Company	3,200,000	2,700,000
Zoubaloff	5,600,000	6,600,000
Kavkaz Company	4,800,000	4,800,000
Caspian Society	8,900,000	7,200,000
Caspian Black Sea Company	13,600,000	13,200,000
Mantascheff	12,500,000	11,600,000
Melikoff	2,800,000	3,000,000
Mirzoeff Bros.	7,400,000	6,800,000
Moscow Caucasian Society	7,700,000	7,400,000
Nagieff	3,900,000	3,900,000
Nobel Bros.	27,500,000	28,300,000
Oleum	3,600,000	2,200,000
Pitoeff	6,200,000	7,300,000
Runo	5,900,000	6,100,000
Russian Petroleum Society	5,100,000	5,300,000
Schibaieff	3,500,000	2,500,000

Out of the twenty principal firms nine had their production increased by 9 per cent., and nine others

decreased by 9 per cent. The maximum increase is shown by the firms of Aramazd, Zoubaloff and Pitoeff, and the maximum decrease the firms Oleum, Caspian Society and Bebe-Aibat Company.

As regards the distribution between the districts, there were obtained on the Bebe-Aibat area 47.5 million poods, or 1.6 million poods less than in 1912, while on the old areas there were obtained 156.3 million poods, or 1 million poods more than during the corresponding period of 1912.

Owing to high prices boring has lately considerably increased, especially as regards completing new wells, but unfortunately these latter have proved of small productivity, having a daily average per well of but 770 poods. Boring during the first five months of the present year was as under :—

January	24,780 feet.
February	26,376 „
March	34,559 „
April	46,695 „
May	48,555 „

Surakhany.—Here the production during the six months of the year amounted to 17.9 million poods, as against 14.7 million poods obtained during the corresponding period of 1912. Spouted oil during the same period amounted to 5.2 as against 3.6 million poods a year ago. The production of white oil and gas decreases. Boring activity at Surakhany amounted during the five months to 33,467 ft., as against 25,907 ft. bored in 1912, showing an increase of 28½ per cent. But owing to not perfectly satisfactory boring, the production may not increase at the same rate as hitherto.

The crude oil production from Binagadi and the hand-dug wells continues to increase. During the half-year this increase amounts to 2–3 million poods. On the Cheleken Island and on Maikop the production decreases, but at Grosny the production has increased by 4 million poods owing to activity in boring. During the first five months the boring at Grosny increased from 45,143 ft. in 1912 to 68,859 ft. in 1913, or by 52½ per cent. Considering such enormous boring, the increase in the production is practically nil.

All this brings one to the conclusion that notwithstanding extensive boring no considerable increase may be expected, and consequently there is little hope of a reduction in the present high prices.

NEW ENGLISH COMPANY.

WESTERN GALICIA OILFIELD.

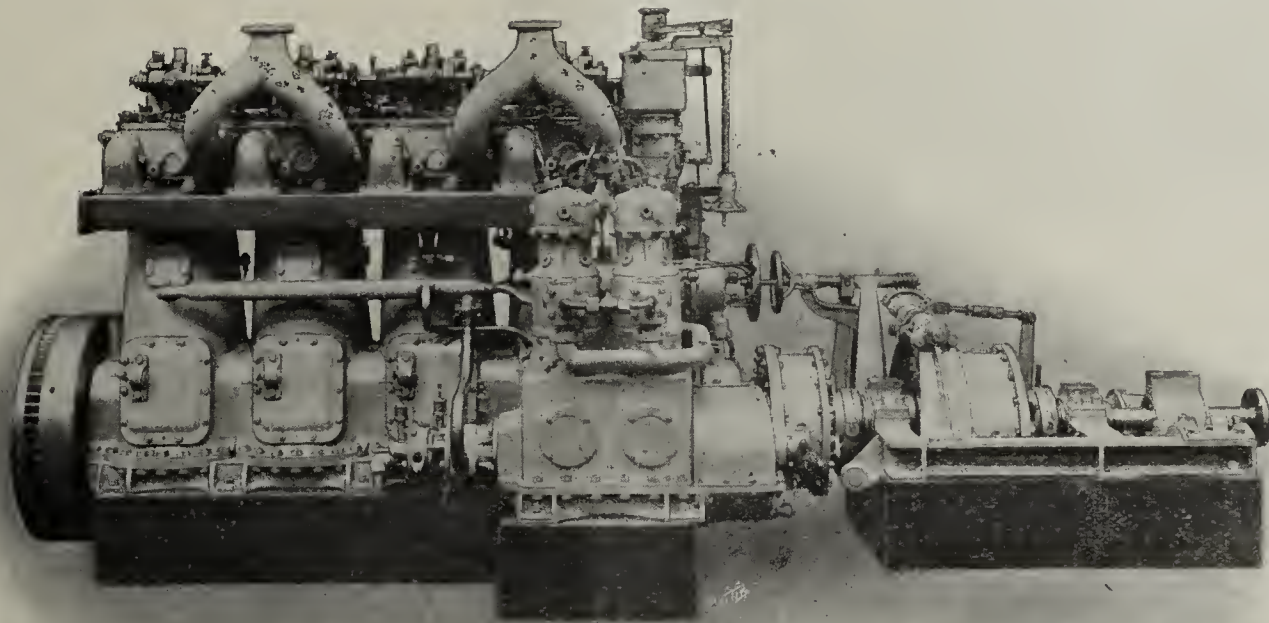
Registered July 15th, with a share capital of £25,000 (£1). Registered offices : 20, Copthall Avenue, E.C.

THE "MIRRLEES-DIESEL" OIL ENGINES.

POWER COMBINED WITH REMARKABLE ECONOMY.

THERE is no doubt that throughout all branches of engineering science the progress which has been made during recent years in regard to the Diesel oil engine is without parallel. A decade ago the Diesel engine was viewed more or less as an experiment which aimed at providing power with an economy hitherto undreamt of: to-day the Diesel has proved itself capable of even exceeding the high opinions in this respect which were held out for it. On land as well as for marine purposes the Diesel now commands the attention of the world, and is utilised for a variety of power purposes. The primary reason for its great popularity lies in its remarkable economy, for with oils at their present abnormal prices, the Diesel engine still shows a very substantial saving in running costs.

sold by the company were found to be thoroughly reliable and were in no sense experimental. It also enabled the company to avoid most of the troubles experienced by some of the Continental makers who sold Diesel engines before giving them such lengthy trials in their own works. The policy also, perhaps, partially explains why, within a year or two of the Mirrlees Watson Company, Ltd., putting the engines on the market, the demand for this new source of power became so great that it was clearly necessary to build large new works to cope with the trade. For financial reasons it was considered preferable that the new works should be controlled by a separate company, and all the members of the staff experienced in Diesel engine work were transferred to the new company;



M.B.&D. LD. N°10.

It may come as a surprise to our readers to know that as far back as 1897 the first Diesel engine was manufactured in Great Britain. It was of the "Mirrlees-Diesel" type, and was built by the Mirrlees Watson Company, Ltd., of Glasgow, and as proof of the sound construction embodied in the earliest type it may be mentioned that that same engine is still running to-day. The Mirrlees Watson Company was one of the first concerns in the world to appreciate the wonderful possibilities of Dr. Diesel's invention, and its license to manufacture the engines was one of the earliest granted.

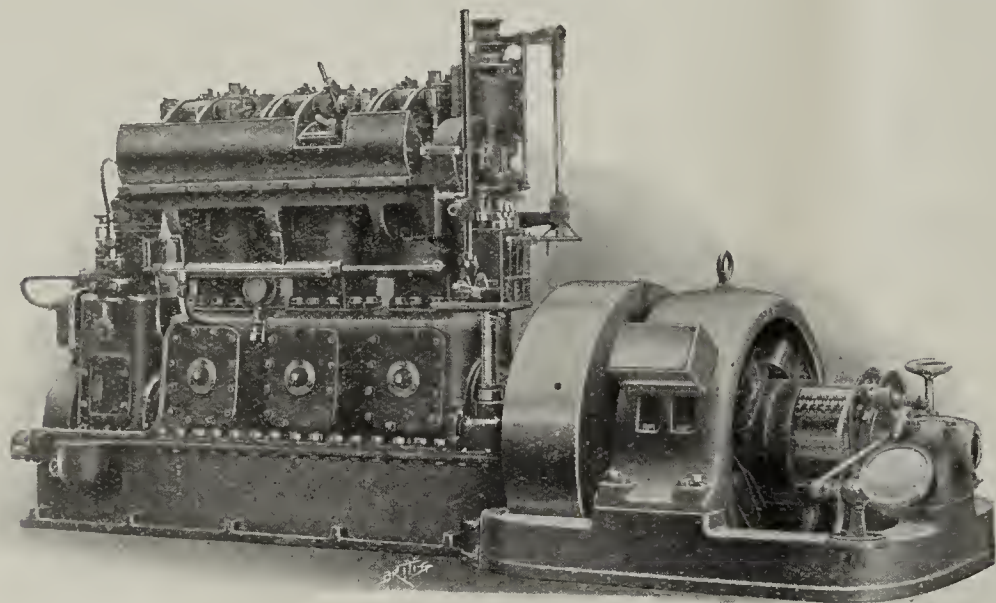
As a result of some years of experimental work the Mirrlees Watson Company completely overcame the numerous difficulties which had to be faced, but even then they did not put the engine on the market until they had satisfactorily run several machines for a few years in regular service, driving portions of their own works, sections of the works being selected where the loads were such as to be a severe trial upon any engine. This cautious policy was perhaps not in accordance with the methods often adopted in regard to new inventions, but its effect was that the Diesel engines

this transfer of experienced staff, combined with the fact that all drawings, patterns, special tools, jigs, etc., were also transferred, enabled the new company—Mirrlees, Bickerton & Day, Ltd.—to continue the business in the most efficient manner possible, and especially so as the new works, which were erected on twelve acres of land at Hazel Grove, near Stockport, were designed and equipped solely for the economical manufacture of "Mirrlees-Diesel" oil engines.

Although the present works have only been in operation for five years, they are no longer equal to the constantly increasing demand for the "Mirrlees-Diesel" engines, and so it has been necessary to practically double their capacity.

We will now pass on to a brief reference to the main principles of the "Mirrlees-Diesel" engine. They are all of the vertical type, and the mechanically operated valves are arranged in the cylinder covers, each valve having a removable seat. This improvement is of considerable importance, inasmuch as it enables the attendant to grind in the spare valves at leisure, and this can be done without having recourse to stop the engine.

Like the majority of Diesel engines, the "Mirrlees-Diesel" is operated upon the four-cycle principle. On the first down-stroke of the piston air is drawn direct from the atmosphere into the cylinder, and upon the following upward stroke it is compressed, the compression causing the temperature of the air to increase sufficiently to ignite fuel sprayed into it. With the third cycle—that is, the second down stroke—fuel oil is blown into the cylinder by compressed air, the oil being admitted in the form of a finely atomised spray. The cycle is completed by the up exhaust stroke. Looking into the cycle more in detail, it will be noted that in the first case only air is admitted to the cylinder, and thus pre-ignition is quite impossible, while on the



firing stroke the injection of the spray of fuel is spread over a measurable period of time, thus avoiding any material rise in pressure after the completion of the compression stroke. This injection of oil is controlled by the governor, so that the amount may be varied to the load. The ignition of the fuel by the heat produced by the compressed air naturally does away with all mechanical ignition devices, and here alone much trouble is saved, since nine-tenths of the worry in securing perfect running with the ordinary high-speed internal-combustion engine can be traced to sparking difficulties.

In the "Mirrlees-Diesel" type of engine the air compressor used for blowing the fuel into the cylinder (and also for starting the engine) is supplied by a two-stage air pump, which forms part of the engine, being driven direct from the crank shaft. The makers of this engine were the first to adopt this principle, which in its practicability and simplicity stands out in strange contrast to the complicated arrangements adopted by other manufacturers when driving the air compressor from the connecting rod.

The cost of running Diesel engines naturally varies in accordance with the cost of the fuel, and though liquid fuel at the moment is quoted at abnormally high figures, it is safe to say that a remarkable saving is shown by the use of oil, even at prevailing rates. In this respect we are reminded of the installation at work at some flour mills in Norfolk. Previous to installing a "Mirrlees-Diesel" engine, the motive power consisted of a semi-portable steam engine of about twenty brake horse-power, and also a tower windmill, but such a plant had many disadvantages. First, in regard to the steam plant, there was a delay in starting, the varying of the steam pressure spelt unsteadiness in running, and the consequent variation of speed meant

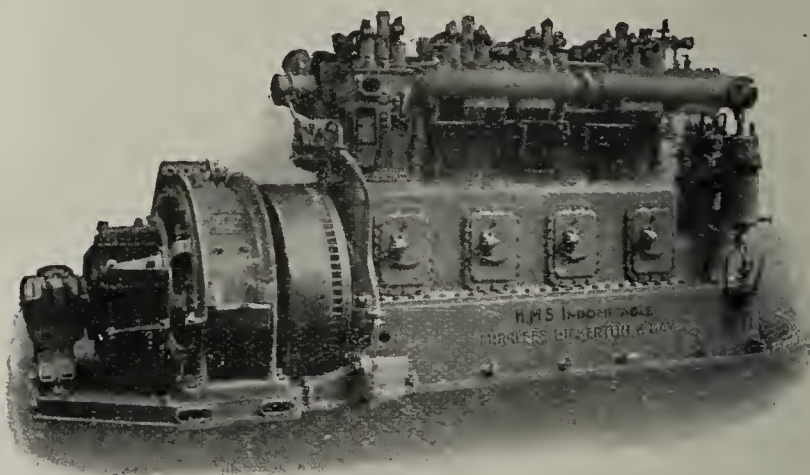
varying the quality of the flour, while in the case of the tower windmill, there was always the uncertainty of the wind being of sufficient power to turn the mill. With the utilisation of the "Mirrlees-Diesel" engine, which is of a 35 b.h.p., the average daily consumption of oil is about 120 lbs., as compared with half a ton of coal, and thus with oil at 50s. per ton, and coal at 21s. per ton, the daily cost of oil is 2s. 8d. as against 10s. 6d. with coal, with the added advantage that the mill has to-day 75 per cent. more power than formerly. The ten-ton fuel tank which the firm has carries a fuel supply sufficient for 186 working days.

It may here be mentioned that Messrs. Mirrlees, Bickerton & Day, Ltd., give a distinct guarantee of the fuel consumption of every engine at various loads, and they verify that such guarantees are attained before the engine leaves their testing department. For instance, with an engine of 150 b.h.p. the guarantee would be as under:—

Full load ...	... 47 lb. per b.h.p. per hour.
Three-quarter load	49 lb. " "
Half load	57 lb. " "
Quarter load	76 lb. " "

For larger engines the fuel consumption per b.h.p. would naturally be somewhat lower; therefore the above figures are a fair basis for the calculation of the cost of running. Too much emphasis cannot be laid upon the economy of the "Mirrlees-Diesel" engine, since practical running has proved that with liquid fuel at the absurdly high figure of 75s. per ton, it would be cheaper to run a Mirrlees-Diesel than paying 15s. per ton for coal for use with a steam plant.

A word or two now as to the illustrations published in connection with this article. The illustration on the first page is that of a 120 b.h.p. engine, as supplied to the British Admiralty for the propulsion of pinnaces



and harbour boats. The engine uses less than one-fifth the weight of fuel a first-class steam plant would use, therefore the radius of action is five times greater.

The first illustration on this page is that of a three-cylinder 45 b.h.p. high-speed "Mirrlees-Diesel" engine running at 450 revs. per minute, and such as supplied to the Admiralty for the Royal Naval College, Osborne, for instructional purposes, to the Japanese government, and to the Australian Commonwealth, while the second illustration represents a four-cylinder "Mirrlees-Diesel" engine coupled to a dynamo, as used in the H.M.S. "Dreadnought" class of battleships, and also for the vessels of other navies.

A concluding word as to the personnel of the firm of Messrs. Mirrlees, Bickerton & Day, Ltd. Mr. Allan F. Baird is the company's chairman, as well as the chairman of the Mirrlees Watson Company, Ltd. The managing director is Mr. Charles Day, who is also the



managing director of the Mirrlees Watson Company; whilst Mr. Henry N. Bickerton, who is well known as the chairman and managing director of the National Gas Engine Company, Ltd., of Ashton-under-Lyme, is also one of the company's directors.

TRIAL TRIP OF THE S.S. "SAN GREGORIO."

THE "San Gregorio," which last week underwent her sea trials, is one of a number of important ships for carrying oil in bulk which Messrs. Swan, Hunter & Wigham Richardson have had in hand for the Eagle Oil Transport Company, of London. The vessel is a

sister to the s.s. "San Fraterno," which was launched from the Wallsend shipyard earlier this year, and at the time was the largest oil-tank steamship in the world. Messrs. Swan, Hunter & Wigham Richardson have also another similar ship on the stocks. The overall length of the "San Gregorio" is 541½ ft., with a breadth of 56½ ft., and she is designed to carry over 15,000 tons of oil in bulk and to travel at a speed of 11½ knots when fully laden. The Wallsend Slipway and Engineering Company have built the quadruple expansion engines and boilers, the latter being fitted with the well-known Wallsend-Howden patent apparatus for burning liquid fuel. The "San Gregorio" has been built upon the Isherwood system of longitudinal framing to the highest class of Lloyd's. All the oil compartments and bunkers are fitted with steam-heating coils to thin heavy oils. There are two isolated pump rooms, each furnished with two powerful duplex oil pumps of Messrs. Hayward, Tyler & Co.'s latest design. The forward hold is to be used for general cargo. The accommodation of the captain and his officers is comfortably installed amidships, while the engineers' rooms are in the poop. Provision is made for wireless telegraphic apparatus, and in all details of design and outfit everything has been done to make the "San Gregorio" representative of the finest type of steamship for carrying oil in bulk. On the trial trip everything worked without a hitch, and to the satisfaction of all concerned. The owners were represented by Mr. Frank Rendall, together with Mr. Walter Bradney, of Messrs. Jacobs & Barringer, London, the owners' consulting architects and engineers.

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DEVELOPMENTS IN THE OILFIELDS.

LATEST PROGRESS REPORTS OF ENGLISH COMPANIES.

Traian Roumanian Oil Company, Ltd.—Production of crude oil for week ended July 26th, 409 tons.

Anglo-Roumanian Petroleum Company, Ltd.—Production (week ended 26th ult.), 127 tons.

Roumanian Consolidated Oilfields, Ltd.—Production (week ended July 26th), 1,217 tons.

Anglo-Maikop Corporation, Ltd.—Telegram dated 27th instant from the manager at Krimskaya :—Well No. 1—depth, 569 ft. Well No. 2—depth, 116 ft.

Maikop Midland Oilfields, Ltd.—Well No. 1—Preparing cut, 7-in. column. Well No. 2—Cleaning plug caused by fountain. Well No. 4—Repairing collapsed shoe. Well No. 5—Depth, 1,280 ft.

Oilfields of Mexico, Ltd.—Well No. 19, 4,377 ft.; well No. 31, lost bit; well No. 32, 630 ft., formation hard. Production last week, 3,275 barrels. Everything is quiet.

Ural Caspian Oil Corporation, Ltd.—Telegram from the fields :—Dossor No. 1 well commenced spouting uninterruptedly, production first twelve hours estimated 50,000 poods. Dossor No. 3 has stopped spouting. This well has been producing at the rate of 14,000 poods per day.

Maikop Pipeline and Transport Company, Ltd.—Received for pumping (week ended 26th ult.), 82,784 poods (1,335 tons). Cable from the manager dated 27th inst. :—“Owing to breakdown of 40 h.p. Ruston Proctor engine cannot hope to start pumping at Krimskaya for another week unless parts can be bought locally.”

Maikop Premier Oil Syndicate, Ltd.—New well No. 4.—During the four weeks to July 26th 228 ft. of drilling down to 818 ft. has been accomplished, at which depth the water has, according to cable advice received July 29th, been shut off. From the proceeds

of oil the company has been enabled to pay the debenture interest for the half-year ended July 22nd, 1913.

Levanovskoe Petroleum Company, Ltd.—(Week ended 26th ult.), 5,000 poods. Well No. 1—After cleaning plug, flowed strongly this morning (28th ult.); then instantly plugged 700 ft.; at present flowing as before between columns at the rate of 800 poods per day. Well No. 2—depth, 1,773 ft.; column now free. Well No. 3—depth 578 ft.; fishing. (Office note—Pipeline is not yet ready to receive oil.)

Oil and Drilling Trust of Roumania, Ltd.—Cable from Campina, dated July 30th :—“Gropi struck oil-sand at 501 metres Monday. Did not wire till now as desired to be absolutely sure. We drilled 32 ft. into oilsand to be quite sure. Oilsand looks good for a big well. Expect have well finished 24 days. Are putting in 8-in. casing to cement off. Work other wells progressing well.”

Venezuelan Oil Concessions, Ltd.—Mr. George B. Reynolds, M.I.C.E., M.I.M.M., the joint managing director of the Venezuelan Oil Concessions, Ltd., has left England en route for the property in Venezuela by the “Kaiser Wilhelm der Grosse” to New York, where he will be joined by a staff of expert Canadian drillers, and will arrive on the property in about three weeks’ time. A complete boring plant, &c., has been shipped, and is due to arrive about the same time.

Tampico-Panuco Oilfields, Ltd.—The general Manager at Panuco cables under date of July 28th that :—“Well No. 1 at Arena, belonging to Tampico-Panuco Oilfields, Ltd., has reached a depth of 1,560 ft., and with regard to Chijoies Oil, Ltd., he cables that wells Nos. 1 and 2 at Chijoies continue to produce steadily at the same rate, namely, about 500 barrels per day. Drilling has recommenced on well No. 3, which has now reached a depth of about 1,150 ft., as the water has subsided and the camp is dry. A contract for the sale of 200,000 barrels of oil has been signed, delivery to commence in September.”

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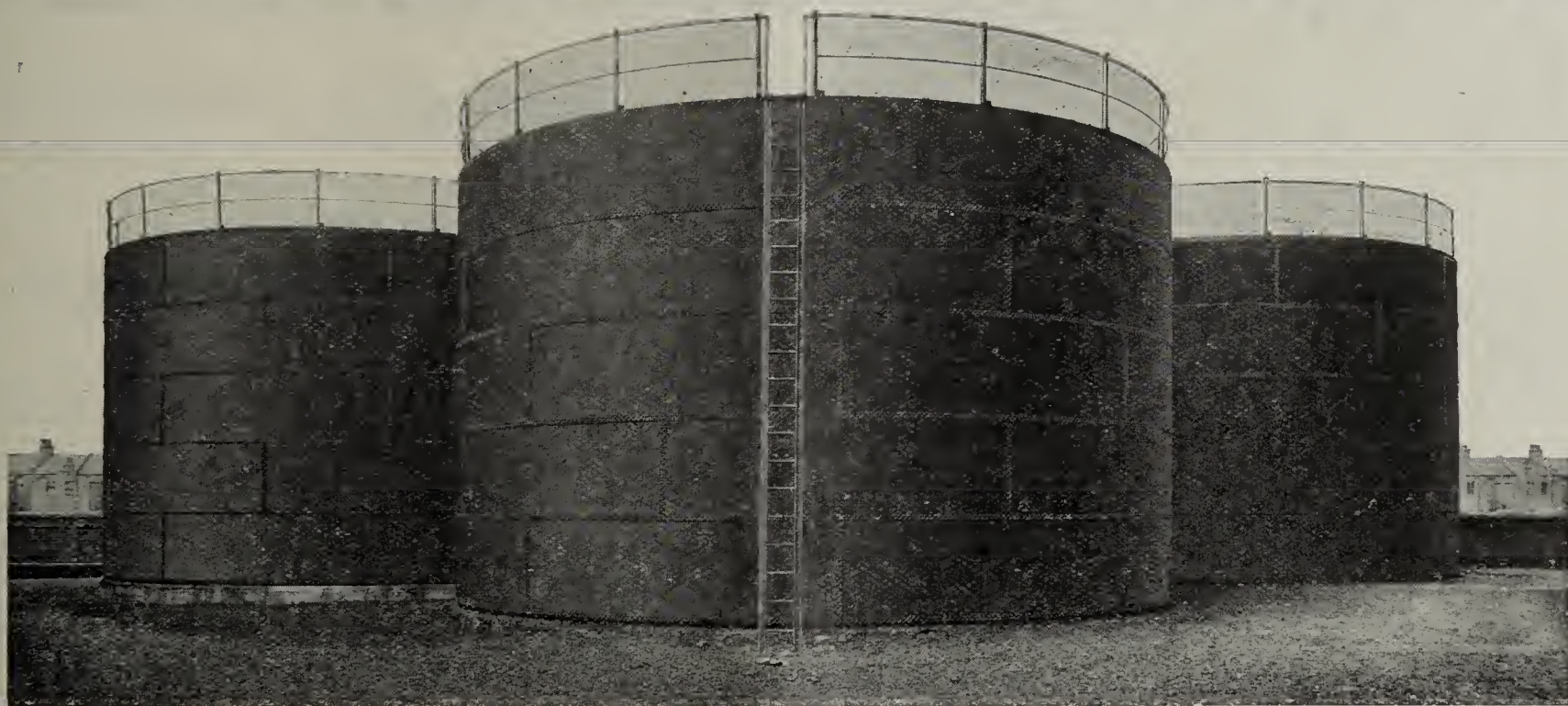
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LATEST QUOTATIONS OF PETROLEUM SHARES.

ENGLISH COMPANIES.

This list is restricted to companies who have paid dividends or who are producers.

Company.	Share Capital.	Value of Shares.	Latest Prices.
	£		
Anglo-Maikop Corporation...	650,000	£1	5- ¹¹ / ₁₆
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	18/6-19/6
„ 5% Deb. Stock ...	600,000	£100	86-89
Assam Oil ...	310,000	£1	⁹ / ₁₆ - ¹¹ / ₁₆
Baku Russian Petroleum Co.	750,000	10/-	4/9-5/3
Bibi-Eibat Oil Co. ...	312,500	10/-	4/9-5/9
Californian Oilfields...	500,000	£1	4 ⁵ / ₁₆ -4 ⁹ / ₁₆
European Oilfields ...	385,000	10/-	6/0-7/0
Lobitos Oilfields, Ltd. ...	400,000	£1	24/6-25/6
Oilfields Finance Corp., Ltd.	600,000	£1	¹¹ / ₁₆ - ¹³ / ₁₆
Pacific Oilfields, Ltd. ...	250,000	£1	2/0-3/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	19/6-20/6
Russian Petroleum Co. ...		10/-	3/0-3/6
Schibaieff Petroleum, new Pref. (fully paid) s/s		—	1 ³ / ₈ -1 ¹ / ₂
„ „ new Ord.	575,000 s/s	(fully paid)	13/9-14/9
Shell Transport and Trading	2,500,000	£1	5 ¹ / ₂ -5 ⁹ / ₁₆
„ „ „	1,200,000 Pref.	£10	10 ³ / ₄ -11
Spies Petroleum Co. ...	600,000	10/-	23/9-24/3

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	666	668
Caspian Society (Issue 1910) ...	1,000	2,875	2,925
A. I. Mantascheff & Co. ...	250	650	660
Nobel Bros... ..	5,000	17,250	17,300
Nobel Bros. (Issue 1912) ...	—	892	894
Russian Naphtha Society ...	100	252	254
Ter-Akopoff Co. ...	250	284	287
Lianosoff & Co. ...	100	252	255
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	386	387 ¹ / ₂

SCOTCH PRICES.

Supplied by Messrs. MACLEAN & HENDERSON, Stirling.

Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
British Australian Oil Co., Ltd. ...	300,000	£1	2/0
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	39/6
6% Cum. Pref.	100,000	£10	£11 ¹ / ₂
Burmah Oil, Ord. ...	1,100,000	£1	72/0
„ Pref. ...	250,000	£1	25/0
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192. 10s.	10s.	6/9
Mexican Eagle Oil, Ltd., Non. Cum. Pref. ...	\$8,500,000	\$10	48/0
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	38/6
„ Pref. (£1 paid) ...	100,000	£1	22/6
Pumpherstons Min. Oil Co., Ltd. Ord. (17/- paid) ..	110,500	17/-	£6 ¹ / ₁₆
6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	9/0
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	74/6
„ „ B Deb. ...	160,000	£100	£160

DUTCH COMPANIES.

Company.	Quotations (per cent.).	
Dordtsche Petroleum Industrie My., Ord. ...	Aand	179
„ Pref. ...	„	176
Royal Dutch Petroleum Co. ...	„	606
Moeara Enim Petroleum Maatschappij ...	„	225
Perlak Petroleum Maatschappij ...	„	67
Sumatra Palembang Petroleum Maatschappij	„	223
Zuid Perlak Petroleum Maatschappij, Pref.	„	56
Tarakan Petroleum Maatschappij ...	„	103

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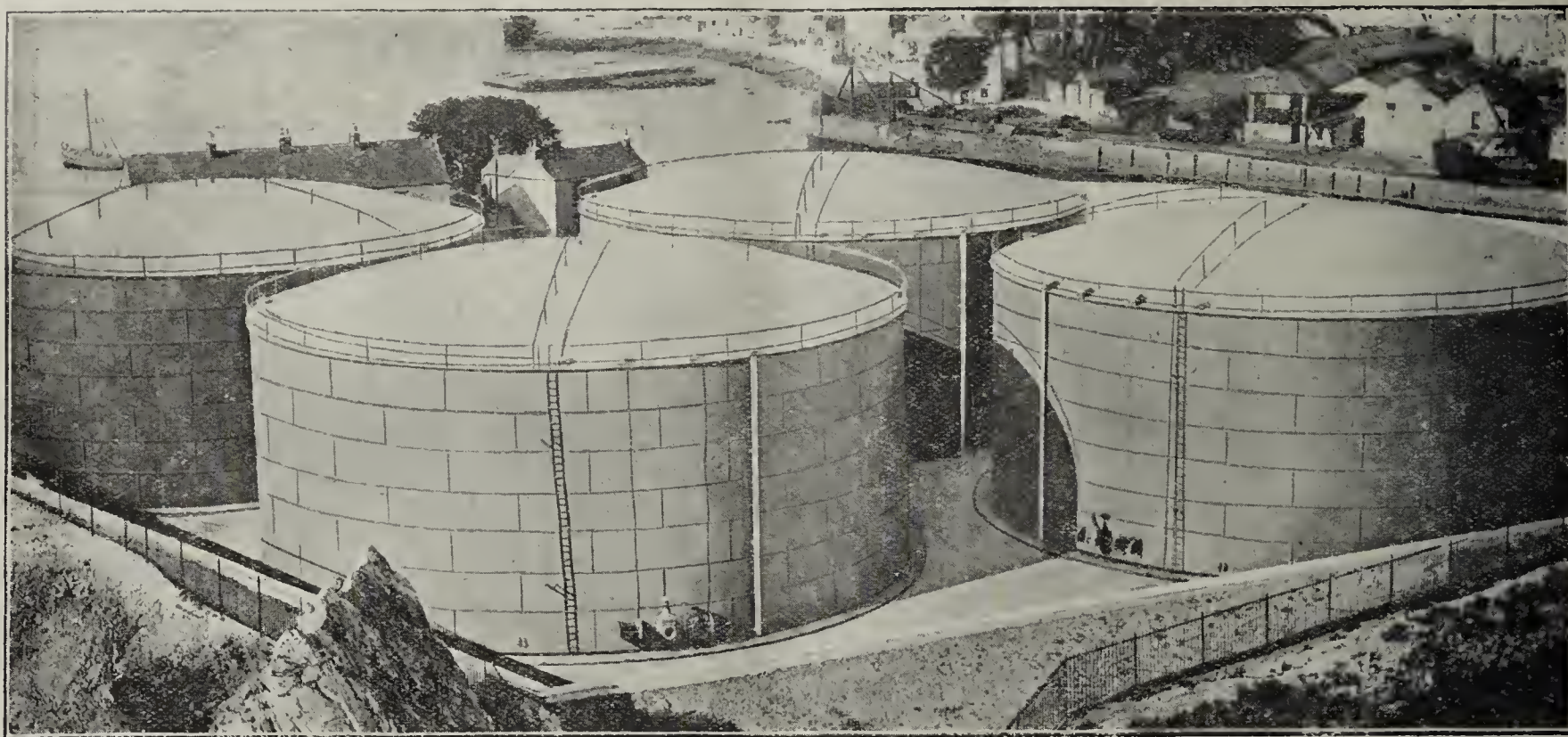
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CHIEF CONTENTS.

	PAGE
Editorial Notes	111
Production of English Companies in Russia	112
Parliament and Liquid Fuel	113
The Russian Petroleum Industry	114
The "Mirrlees-Diesel" Oil Engine	115
Developments in the Oilfields	118
Latest Quotations of Petroleum Shares	120
Three Interesting Company Reports	123
Classified Imports	124
Notes from the Oilfields	125
The Oilfields of Burma	127
Petrol Substitutes for Use in Motor Vehicles	129
Company Reports and Meetings	131

THE
PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.
American Office: 111, Broadway, New York.

SATURDAY, AUGUST 2ND, 1913.

THREE INTERESTING COMPANY REPORTS.

IT is not frequently the case that three such interesting company reports appear simultaneously as those which are published in other columns of the present issue of the REVIEW—we refer to those of the Russian Petroleum Company, Ltd.; the Baku Russian Petroleum Company, Ltd., and the European Oilfields Corporation, Ltd.

The simultaneous issue of these company reports during the present week is no mere coincidence, for a distinct tie of association runs through the whole of the respective enterprises. In the first place, and we are going back only a year or two, each of the companies was practically on its last legs; none had any finance at their disposal, and a policy of consistent mismanagement had told its sorry tale. Each of the concerns then underwent the remoulding hand of reconstruction—a procedure which in each case was exceedingly arduous and difficult—and to-day, the gentleman who was so largely responsible for the remoulding operations—we refer to Mr. Herbert Allen—occupies the position of chairman of each company.

In the whole history of petroleum company

re-organisation, the careful student must admit that the remarkable foresight and genius which has been brought to bear in connection with the three concerns we have enumerated finds no parallel. They have been bodily lifted out of a most unenviable situation, and each in its turn placed upon a foundation of solidity which eloquently augurs for its future success. Indeed at the present time all three concerns are in an eminently satisfactory position, with exceptional prospects, and, as the respective reports suggest, the shareholders will not have to wait long before dividends come their way. The transformation which has taken place in regard to the companies is truly remarkable.

Let us in a few words review the position of each concern as it appears from the report and balance-sheet, taking that of the Russian Petroleum Company first inasmuch as, by reason of its share capital (£1,400,000) it may well be considered the most important.

Since its reconstruction it has made steady progress, and the first point mentioned in the report, which covers the operations for the whole of last year, as to the accruing of £65,000 for account of the Company upon the closing of the receivership of the old concern, must forcibly remind shareholders of the forces which have been at work in their interests since the re-construction of the company was carried through. An active drilling programme is being carried out upon the company's properties, the bulk of which plots have the distinct advantage of being freehold, and the production of crude oil is already showing unmistakable signs of substantial increase. Added to this, the present highly remunerative price which crude oil is to-day commanding—44 copecs per pood—and recollecting that the present cost of production is under 13 copecs per pood, it will be seen that the company is operating at a profit which, ere long, will amply justify the declaration of a dividend.

Though the Baku Russian Petroleum Company cannot but feel the iniquitous nature of its Government royalties, its general position is in no way less satisfactory than that of its old sister company—the Russian Petroleum Company. Here, too, in connection with the Company's properties, the old administration had been wiped out, a step which cannot be over-estimated in its importance to the shareholders, since, however friendly an administration may be, shareholders can never hope to have the same direct supervision as if the properties are under their own direct control. The current year, therefore, is the first

through which the company's properties will be managed solely by its own officers, and it says much for the excellence of the management, both in Baku and London, that for the first half of the present year the profits are estimated at over £50,000, as compared with £63,000 for the whole of last year when the administration was in power. The shrewd move of the board in leasing off some of the plots which the company was unable to exploit itself is already producing excellent results, so much so that the directors are now considering the granting of further leases upon advantageous terms to the company. In accordance with the policy now being adopted by other important producing interests in Baku, the company is steadily reducing its consumption of oil fuel on the fields, by utilising motors in preference to steam boilers, but the full benefit of the economy here effected has yet to be felt.

In regard to the operations of the European Oilfields Corporation, the report needs no words of ours to recommend it for the approval of the shareholders. The corporation is indeed in an enviable position to-day, and had it not been for the fact that the directors wish to conserve the financial resources of the company as much as possible, having regard to the comparatively heavy expenditure involved in sinking many of the wells to the lower levels, a dividend would have been declared on the present occasion. Indeed the accounts warrant it, but there is no doubt the best interests of the shareholders will be served by the adoption of the conservative policy of the Board.

A word in conclusion, which is applicable not only to the three concerns we have touched upon, but to every oil-producing company to-day. There are, we know, especially in the Baku district, great difficulties ahead of any operating company which strives not only to maintain but to increase its crude oil output. The adoption of a comprehensive drilling programme is a *sine quâ non* of every well-managed producing organisation, and though the result of the expenditure of considerable money in this direction may not reveal itself to the shareholders as the latter would like, it must not be forgotten that a large production and highly remunerative prices never go hand in hand, and of the two factors the latter is undoubtedly the safer. Whatever shortcomings there may be in regard to the production of crude oil in and around Baku, these are more than compensated for by the present high level of prices, which are at the time of writing the most remunerative on record.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO JULY 28th, 1913.

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IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since July 21.	From Jan. 1.	Since July 21.	From Jan. 1.	Since July 21.	From Jan. 1.	Since July 21.	From Jan. 1.	Since July 21.	From Jan. 1.	Since July 21.	From Jan. 1.	Since July 21.	From Jan. 1.	Since July 21.	From Jan. 1.
Belgium ..	—	—	13,890	414,653	—	—	—	—	—	—	—	120	—	4,240	13,890	430,013
Canada ..	—	—	—	7,040	—	23,940	—	—	—	—	—	—	—	—	—	30,980
Dutch Indies ..	—	—	—	—	—	—	—	—	1,180,000	21,096,990	—	120,820	—	—	1,180,000	21,217,810
Germany ..	—	129,920	34,260	2,077,110	—	—	—	107,120	—	—	—	400	—	2,400	34,260	2,316,950
Holland ..	—	—	170	7,340	—	—	—	—	55,000	4,627,340	—	—	—	590	55,170	4,635,270
Mexico ..	—	4,007,400	—	—	—	—	—	—	—	734,700	2,312,390	10,361,360	—	—	2,312,390	15,103,460
Roumania ..	—	11,052,767	—	—	—	—	1,150,000	—	—	1,103,000	—	7,515,100	—	—	—	20,820,867
Russia ..	—	5,339,680	570	8,587,420	—	238,770	—	—	741,360	9,827,450	—	—	—	—	741,930	23,993,320
U.S.A. ..	1,468,720	58,872,796	520,660	28,341,874	—	138,930	874,370	36,609,450	2,857,050	15,250,800	—	2,240,090	—	594,575	5,720,800	142,039,515
Other Countries ..	—	80	1,480	91,800	—	480	—	—	—	4,859,240	—	620	—	1,260	1,480	4,953,480
	1,468,720	79,402,643	571,030	39,527,237	—	402,120	874,370	37,857,570	4,833,410	57,499,520	2,312,390	20,238,510	—	603,065	10,050,920	235,541,665

NOTES FROM THE OILFIELDS.

AMERICAN.

Drilling in Manitoulin.—Active drilling operations are now proceeding on Manitoulin Island, which lies between Lake Huron and Georgian Bay. The prospects are said to be very encouraging.

Mexican Exports.—In spite of the unrest, the oil exports from Mexico during June reached a record, for nearly 2,400,000 barrels of crude oil were shipped from Tampico and Tuxpam to United States ports.

Natural Gas for The Texas Company.—Henceforth the refinery at Port Arthur, belonging to The Texas Company, will be operated by natural gas from the Caddo fields. In order to ensure a steady pressure, pumping stations will be installed along the route of the pipe-line.

The South American Fuel Trade.—Negotiations are stated to be proceeding between the Union Agency of California and the General Pipeline Company, by which the latter will deliver to the former fuel oil at San Pedro, California, for the South American fuel trade.

Drilling Activity.—During the first half of the present year nearly 10,000 wells have been drilled in the Mid-Continental and Pennsylvanian fields, with an initial daily production of over 210,000 barrels. Almost 5,000 new wells have been drilled in Kansas and Oklahoma alone, and 3,500 wells in the Pennsylvanian fields.

Possible Oilfield at Estevan.—The province of Saskatchewan is brought into the ranks of a possible oil territory by the reported discovery of oil at Estevan at a depth of 2,000 ft. The well was primarily drilled for water, but salt water was struck, and further boring was abandoned. Recently, however, a considerable flow of gas has come from the well together with pronounced indications of oil.

RUSSIAN.

Batoum Exports.—The exportation of petroleum products from Baku has become livelier, with the exception of that of kerosene, which somewhat decreased.

The Vladikavkas Railways.—The Vladikavkas railway has obtained a production of 1,500 poods of oil a day from a depth of 380 ft. on a plot at Grosny, on the old Glushkoff area.

The Akhverdoff Company.—This company has obtained petroleum at Braguni, in Grosny, and a great interest is now being taken in this locality as well as in Tsti-su.

New Railway Moscow-Caucasus.—A group of Moscow capitalists have obtained authorisation to build a railway directly connecting Moscow with the Caucasus. At the head of the enterprise stands the well-known engineer Wentzel.

First Dossor Petroleum Cargo.—On June 14th the first cargo of petroleum left Dossor for Astrakhan, when 130,000 poods of oil were shipped aboard the barge "Appolon," tugged by the steamer "Carthago."

An Important Railway for the Caucasus.—The Government is studying a project for constructing a railway from Astrakhan to Kadi-Turt, on the Vladikavkas railway. The line will cross the Terski Province, and will have several very important branches.

Grosny.—The Tcheleken-Dageshan Company has considerably increased its activity. Great results are expected in two or three years' time when deep borings will be completed. At present there are fourteen wells in boring, ten in instrumentation and twenty in exploitation.

Maikop.—On plot No. 488 there has appeared light oil from a depth of 900 ft. in a new well bored by Andreas. The yield is about 800 poods a day. Heavy oil has been obtained on plot 544 from a depth of 680 ft., and the oil is overflowing. Work is now being actively proceeded with, especially at Khadijinskaia.

Central Caucasian Railway.—The Council of Ministers is considering a project for constructing a central Caucasian railway, which will unite the Kakhétin railway with Baku. The line will also pass through areas exceedingly rich in petroleum and many other minerals.

Exploring in the Ural Province.—The Samaro-Ural administration has at present 26,000 demands for zaiavkas, and has already given out 3,000 certificates. The verification of all these demands is connected with enormous difficulties. The price fixed by the administration for exploration areas is 75 roubles per plot on State lands and 187.50 roubles on Kozak lands.

Small Producers' Organisation.—The producers of petroleum from hand-dug wells have decided to form an organisation in order to strengthen their position and to carry out all negotiations with the Ministry, in view of elaborating and carrying out measures necessary for the promotion of the hand-dug industry and for all safety purposes.

New Auctions of State Petroliferous Properties.—The Ministry of Trade and Industry has decided soon to open the second auction for the lease of another 35 plots at Baku of a total area of 140 dessiatines. The conditions will be considerably heavier than those of the first auction, and the quantity of compulsory production as well as the quantities of oil to be delivered to the State will be increased.

Transcaucasian Railways and Petroleum Exploitations.—The Transcaucasian Railway intends to commence the exploitation of petroliferous lands, situated near the stations Saboontchi and Surakhani, within the limits of the railway's domains. According to the administration's estimate they will produce during the first year 5,000,000 poods of petroleum; during the second and third years 10,000,000 poods each year, and afterwards 15,000,000 poods. During the three years an expenditure of 6,000,000 roubles will be made. The cost of production is estimated at 20 copecs per pood, or 25 copecs, including 25 per cent. royalty.

ROUMANIAN.

Prices.—The prices of crude oil are somewhat firmer, but there were few transactions of importance.

Colombia.—The well of this company continues yielding about 600 tons a day. It has so far produced a total of 343,100 tons.

The General Situation.—There prevails now on the fields a normal activity, and the situation generally is improving. It is expected that transports will soon be resumed.

Romano-Americana.—The well No. 8 of this company at Moreni-Tzuicani has increased its yield by eruptions from 200 tons to 400 tons a day.

Refining.—The refining branch of the industry is somewhat disorganised; some refiners have entirely stopped work, others work but little. Generally, the refining industry has suffered the most from the war.

The Astra-Romana.—The production of this company during last week amounted to 1,085 tons per day, of which 795 tons were produced at Stavropoleos, 183 tons at Bana, 65 tons at Campina, 38 tons at Filipeshiti and the rest at Barcai and Glodeni.

Production in June.—The production during June was as follows: Astra-Romana 39,650 tons, Romano-Americana 25,982 tons, Roumanian Consolidated Oil Fields 8,936 tons, Orion 4,011 tons, International 3,974 tons, Nafta 2,278 tons, Traian Roma Oil Company 2,014 tons.

Production.—The general production has naturally been influenced by the mobilisation which has deprived the industry of the best part of its employees. The average production is now about 20 per cent. below the normal, namely, at a figure of 4,200 to 4,400 tons per day.

MISCELLANEA.

A MILD BOOM IN THE GROSNY DISTRICT.

QUITE a mild boom is now being experienced in the Grosny region consequent upon the productivity of the well upon Bellikoff's plot, which is yielding by overflowing from one to two thousand poods daily. Land values in the neighbourhood of the plot have increased, and from six to eight thousand roubles is demanded per dessiatine for promising land, with a 15-22 per cent. royalty. Several derricks are now being erected, while arrangements are being made to start other derricks as quickly as possible. There is much speculation throughout the Terski province near Grosny.

THE OILFIELDS OF OKLAHOMA.

Activity Leads to Increased Production.

FOLLOWING upon increased activity, the crude oil production of the Oklahoma fields has increased to approximately 175,000 barrels daily. The amount of drilling on the various fields of the State may be imagined from the fact that over 1,100 new wells are at the moment being drilled. Some of these are in proven territory, others in land marked by the State geologist as "probably oil-bearing," but a large number are situated miles away from any other test. Considerable areas of land are changing hands at high prices, and it is reported that Oklahoma has never passed through such a boom time as at present. In spite of the extraordinary amount of new operations proceeding, no new oil-producing pool is in sight.

BAKU PETROLEUM PRODUCTION DURING JUNE.

Preliminary Statistics.

THE production of petroleum in the Baku fields during June on all areas amounted to 33,348,000 poods. The production of the principal firms during the month was as under:—

	Poods.
Nobel Bros.	4,700,000
Caspian and Black Sea Company ...	2,000,000
Mantascheff & Co.	1,800,000
Baku Petroleum Company	1,600,000
Caspian Society	1,100,000
Mirzoeff Bros.	1,100,000
Moscow-Caucasian Petroleum Company	1,200,000
Pitoeff & Co.	1,100,000
Russian Petroleum Company	1,000,000
Zoubaloff	1,200,000
Russian Petroleum Society	900,000
Kavkaz Company	700,000
Nagieff	500,000
Asadulaeff	500,000
Aramazd Company	500,000
Baku Russian Petroleum Company ...	500,000
Rilski Trustees	500,000

The production on the Grosny oilfields during the month amounted to 5,700,000 poods.

THE FIRST BELGIAN OIL-TANK VESSEL.

THE first oil-tank boat constructed in Belgium has recently been launched from the Cockerill yards at Hoboken. The vessel measures 50m. between perpendiculars, 9.50m. broad and 3.9m. deep. The carrying capacity is 700 tons. She is fitted with a 400-h.p. triple-expansion engine, and the boiler will be fitted to work on oil fuel. This vessel has been constructed for the Cie des Pétroles au Congo for use in connection with the oil to be conveyed to the regions beyond Stanley Pool.

NEW COMPANIES TO DEVELOP THE NEW ZEALAND OILFIELDS.

THE following new companies have recently been registered in New Zealand:—

Phoenix Oil Company, Ltd., registered May 29th. Office, Christchurch: Capital, £25,000 into 23,750 ordinary shares of £1 each and 225,000 deferred shares of 1s. each. Subscribers—Taranaki and East Coast Oil Properties, Ltd., 9,000 ordinary shares. Christchurch: A. E. Cooper, C. W. Reid, W. Izard, G. J. Smith, F. E. Graham, J. Ainger, and H. D. Acland, all one ordinary share each. Objects—To carry on business in connection with any oil-bearing or other mineral properties or rights.

International Petroleum and Mineral Development Corporation, Ltd., registered May 31st. Capital, £400,000 into 400,000 shares of £1 each. Subscribers—Christchurch: J. S. Guthrie, J. B. Laurensen, O. A. Moller, M. A. Powrie, J. J. Dougall, A. J. Symonds. Wellington: L. G. Grace, all one share each. Objects—To carry on the business of producers, refiners, etc., of petroleum and similar mineral oils, etc.

The Phoenix Company will be under the management of Mr. Fedorowicz.

EXPORTS OF PETROLEUM PRODUCTS FROM BAKU.

Statistics for April.

THE total quantity of petroleum products exported from Baku during April amounted to 43,557,996 poods, while the quantity of products left in store at the refiners on the 1st of May amounted to 83,635,262 poods. The following table shows the quantities of various products exported by rail, on the Caspian Sea, and by road, as well as those left in store.

	Exported by		In Store on	
	Rail.	Caspian Sea.	Road.	1st of May.
	Poods.	Poods.	Poods.	Poods.
Kerosene... ..	1,519,044	7,369,521	80,282	11,827,656
Lubricating oil	1,061,009	905,987	24,410	2,292,160
Solar oil (Light)	21,097	422,014	—	1,099,263
„ (Heavy)	326,605	181,634	792	990,038
Residuals	697,824	23,739,953	59,120	43,317,620
Crude oil	813,744	6,028,500	27,201	22,795,932
Benzine	294,690	944	3,625	792,750
Other Products...	—	—	—	519,84
	4,734,013	38,648,553	175,430	83,635,262

THE OILFIELDS OF BURMA.

Their History and Development.

Reprinted from
"Memoirs of the
Geological Survey
of India."

Volume XL, Part 1.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

AN account of the history of this oilfield and the legends regarding its origin will be found in Dr. Noetling's work "Report on the Petroleum Industry in Upper Burma from the end of the last century up to the beginning of 1891," or in the "Memoirs of the Geological Survey of India," Vol. XXVII, art. 2. A more credible legend than that of the queens, and one Dr. Noetling was apparently unaware of, appeared in the *Rangoon Times*, June 15th, 1909. The story runs that a few centuries ago a warlike king of Burma,

of the eighteenth century, and that Beme was the older of the two. Whether wells were ever dug in the intermediate Khodaung area is uncertain, since no traces remain here. During the Burmese *régime* the right to dig for oil was vested in 24 heads of families known as "Twinzayos" (Twinza=well-owner, or literally well-eater, *i.e.*, one who eats, or obtains a livelihood, by possessing a well), who could sell his right only with the consent of the whole corporation, but who could allot sites to any member of his family. This hereditary



The Burmah Oil Company's Exchange in the Yenanyaung Fields, where Oil is purchased from the Twinzas.

having raided the coast of Arakan, crossed the Yomas with his captives and rested at Yenangyaung on the way up to his capital. To commemorate his exploits and to acquire merit he built a pagoda, made his prisoners pagoda slaves, and after setting up a tablet to record all this, left them in charge of the shrine, the Bayin Pagoda, 5 miles north of Yenangyaung. The slaves becoming prosperous, eventually flung the obnoxious tablet recording their former despised position into the Irrawadi. It was they who worked the oil here and to whom a monopoly was given by the king, forming the body of Twinzayos. An annual fair including a "*pwe*" (theatrical performance) is celebrated at this Bayin shrine, one of the most imposing in the district.

An excellent condensed account of the more recent history was given in a confidential report by the Oilfields Committee appointed by the Government of Burma to enquire into the congestion of boring within the Native Reserves. The following brief summary is compiled largely from this and other accounts. It appears that two petroliferous tracts—Twingon and Beme—were being worked by the Burmans at the end

right descended from male to male or from female to female. After the annexation of Upper Burma in 1885 the rights of these people were recognised by the English Government although they confessed they had no written agreement, and two areas ultimately demarcated within which not more than 12 sites per annum were to be allotted to each of the Twinzayos. Yule says that 30 cubits (about 50 ft.) was the distance limit between adjacent wells, at the time of his Mission, but a minimum distance limit between wells came to be regarded as fixed at 60 ft., permitting the allocation of over 4,000 well-sites. The two reserved areas, Twingon and Beme, contain respectively 295 and 155 acres. The grants were made in perpetuity with merely a requisition to report any transfer or devolution on the part of owners of sites at the time and, in the case of newly allotted sites, with an added condition requiring certain minimum depths to be dug during the first two years. A royalty of 8 annas per 100 viss (1 viss=3.65 lbs. av.) was levied in all cases, and any well-owner might sell oil or alienate his right to any person or public company. One hundred and twenty royal wells acquired by King Mindon Min by marriage with a female

Twinzayo and seventeen held by him under mortgage fell to the Crown, as also did twenty-seven wells whose owners could not be found, making a total of 164 State wells (sometimes known as Royal wells) at present held under lease by the Burma Oil Company.

The native industry is rapidly becoming a thing of the past, but crude oil is still sold and employed for many purposes. Besides being burnt in rude lamps, especially at theatrical performances or "*pwees*," it is used for lubricating bullock-cart wheels, as a protective covering for the woodwork and planking of houses, as a preservative from insects, as a liniment, as an external medicine for rheumatism, and as an internal medicine. More than one description of the process of digging wells employed by the Burmans has been already published, but as both Dr. Noetling's books are now difficult to obtain I propose to give a very brief sketch of these methods and a few recent improvements introduced therein. Many have praised the ingenuity of the devices invented, but, much as one may admire the character of the Burman, one cannot help feeling a disappointment at his slowness in improving crude Eastern ideas under the example of Western progress. He is far behind the Arrakanese in this respect and is still seen at Yenangyaung, in the midst of modern machinery, laboriously digging his five feet square shafts. These shafts are boarded up with wooden planks and in the old days with much difficulty reached a depth of 300 ft. Dr. Noetling describes the diggers going down with their eyes bandaged so that no time should be lost at the bottom in getting accustomed to the darkness, and being brought to the surface again in a state of complete exhaustion. The man, practically nude, was lowered on a rope over a crude pulley by a string of coolies and, in a well about 250 ft. deep, took $\frac{1}{4}$ minute to reach the bottom. After half a minute of frantic digging or loading of pots or baskets in an atmosphere of gas, he was hauled up again during the next two minutes and then required about half an hour's rest before he was sufficiently recovered to go down again. In such a deep well he could not make many more than twenty descents in a day. The earthen pots or wicker baskets of diggings are always hauled to the top on a separate rope. The light by which the digger works is flung down to him by a mirror at the mouth of the well. Such a primitive arrangement speaks more for patience than for ingenuity. Since Dr. Noetling's time, however, from the latter half of 1896, a decided improvement has been introduced in the form of a diving dress, air being pumped down by two coolies who turn the handles of an air pump. This operation as well as that of lowering and raising the nigger is generally entrusted to the members of his family. In this way a man is enabled to stay at the bottom of the well for an hour or more, and depths of 400 ft. or slightly more have in consequence been reached. Little less than two years are required to attain such a depth, whereas a machine drill will do the same in a week or ten days. Greater depths could no doubt be reached, but the Burman now finds it more profitable to dispose of his well-site to one of the European companies than to work it at all. Dr. Noetling also describes their method of breaking through the hard bands of calcareous sandstone met with in the wells, which is in reality much more effective and ingenious than it sounds. A pear-shaped mass of iron

about 150 lbs. in weight is suspended over the mouth of the shaft by a thin rope passing over a bamboo; by means of a looking-glass the bottom of the well is examined and the weight shifted until it is exactly over the part to be struck, after which the rope is cut with a knife by a dexterous vertical blow against the bamboo, and the weight falls to the bottom fracturing the sandstone. In a well 256 ft. deep the momentum attained would be 19,200 foot pounds, and the shock of the impact can be felt on the surface for some distance around. Although the operation of sending a man down and hauling up first the man and then the weight seems ridiculously laborious, two or three such performances are sufficient for most hard beds.

The following figures give the annual production from native wells from 1888:—

					Gallons.
1888	...	...	...	...	2,548,171
1889	...	...	...	...	2,665,998
1890	...	...	...	...	2,812,755
1891	...	...	...	...	2,830,379
1892	...	...	...	...	2,946,129
1893	...	...	...	...	3,709,844
1894	...	...	...	...	3,935,178
1895	...	...	...	...	4,863,704
1896	...	...	...	...	5,701,602
1897	...	...	...	...	5,528,030
1898	...	...	...	...	5,550,119
1899	...	...	...	...	4,799,144
1900	...	...	...	...	8,553,466
1901	...	...	...	...	6,227,299
1902	...	...	...	...	7,612,104
1903	...	...	...	...	7,493,403
1904	...	...	...	...	7,751,573
1905	...	...	...	...	8,321,302
1906	...	...	...	...	8,292,325
1907	...	...	...	...	7,944,914
1908	...	...	...	...	7,950,376
1909	...	...	...	...	5,855,056
					<u>123,892,871</u>

The average daily yield per well in 1905 worked out at about $\frac{1}{2}$ barrel (20 gallons), but this is undoubtedly lower than what might be obtained with more perseverance and enterprise. A great deal of this oil is purchased by the Burma Oil Company. The native industry at Yenangyaung is rapidly declining and giving place to more advanced methods of exploitation.

In tracing the history of the more important machine-boring industry we go back also to the Burmese *régime* when Messrs. Finlay, Fleming & Co. traded in oil at Yenangyaung. In 1886, one year after the annexation, was floated the Burma Oil Company, which by its enterprise and perseverance laid the foundation of the real petroleum industry in Burma. Their first hole was commenced in 1887 in Khodaung, on the south bank of the Aungban Yo. The first wells tapped what has since been termed the Twinza oilsand between 300 and 400 ft. down. In 1890 the Burma Oil Syndicate commenced operations in Blocks 1S and 2S, but no trace of petroleum was ever found by them although gas was struck in considerable quantities: seven wells were drilled by this Syndicate. An experimental bore was drilled in Khodaung in 1891 by the Burma Oil Company to nearly 800 ft. and another sand reached, but the yield was disappointingly small.

Petrol Substitutes for Use in Motor Vehicles.

By SIR BOVERTON REDWOOD, BART.,
and PROF. VIVIAN B. LEWES.

*An interesting paper read
before the Imperial Motor
Transport Conference this
: : : week. : : :*

(Concluded from page 100.)

IN considering the nature of hydrocarbons we find that the simpler ones containing a small number of atoms to the molecule are gaseous, and that as more and more atoms of carbon and hydrogen become compressed into the molecule the congestion results in the compound assuming the liquid state, whilst further additions of the components lead eventually to its conversion into the solid form. It was shown by James Young in 1865 that when shale oil was distilled under pressure a large yield of lighter products could be obtained; and this was explained by Thorpe and Sidney Young in 1871, who showed that when paraffin wax was distilled under a pressure of 25 lbs. it could be converted into liquid products which contained hydrocarbons of the paraffin or saturated series and unsaturated hydrocarbons in nearly equal proportions. The same results were obtained in 1887 by Benton, who, however, employed higher pressures, whilst in 1889 Sir James Dewar and one of the authors showed that the distillation of heavy grade oils, when the distillates were condensed under pressure, resulted in an even larger increase in the more volatile constituents, a process which has been revived lately by the Standard Oil Company.

With the simple forms of hydrocarbons the process of cracking can unquestionably be employed with great success, and can be made to give an increase of between 30 and 40 per cent. in the lighter distillates. An admirable illustration of this process is found in the New Oil Refining system, in which those portions of the crude petroleum which come over after the petrol and lighting oils have been distilled off are employed for cracking in contact with iron and vapourising water, yielding a further 39 per cent. of excellent motor spirit. Such processes seem destined to play an important part in the immediate future in adding to our supply of motor spirit. Attempts are also being made to utilise the catalytic action of nickel in various forms in bringing about a combination of hydrogen with hydrocarbons containing a high percentage of carbon, so as to produce distillates of sufficiently low boiling point to form motor spirit.

The idea of cracking has been extended during the past few months from heavy hydrocarbon oils to the distillates obtained from coal, and one hears constantly of schemes in which the cracking of tar to produce light hydrocarbons is suggested as a possible and remunerative method of adding to the supply. When coal is subjected to destructive distillation it breaks up into gases, tar and ammonia liquor, which are volatilised and leave behind a residue of coke. The tar so produced varies widely in its character with the temperature at which the carbonisation has been carried on, the nature and condition of the coal, the form of retort, and other factors.

All tar, however, can be classified under two broad headings:—

1. Tar, the bulk of which has been distilled at temperatures above 800° C.

2. Tar, the bulk of which has been distilled below this temperature.

Class 1 includes the tar made in horizontal and inclined retorts during ordinary gasworks' practice; whilst

Class 2 consists of the tars from vertical and chamber retorts and low temperature processes.

The higher temperature tar is "benzenoid" in its character, and contains as its chief constituents benzene, toluene, carbolic and cresylic acids, naphthalene and anthracene, together with pitch containing much free carbon. All the above hydrocarbons belong to the ring form of structure, are high-temperature products, and when sufficiently heated to decompose break up chiefly to methane, hydrogen and carbon, so that this form of tar cannot be cracked profitably. The only possible treatment for this class of tar for the production of motor spirit is to distil off the benzene and toluene, which are the valuable portions for this purpose, and then to take the oil fractions and distil them through a column of red hot coke, when a small additional quantity of benzene and toluene is formed by the decomposition of the carbolic and cresylic acids in contact with the carbon surface. The cost of doing this, however, would be prohibitive, and it is only the fractions distilling from the tar direct that can be reckoned upon; and although something like 15,000,000 tons of coal are carbonised annually for gas-making in this country, it is only the largest works that distil their tar, and the quantity available for motor spirit would be only about 50,000 gallons per annum.

With vertical retorts a large percentage of the tar is distilled at a lower temperature, and becomes more paraffinoid in character, a slightly larger fraction being fitted for motor spirit; but at present such tars are generally mixed with those from horizontal retorts and are not available for separate distillation. Coke-oven tar is also of this character, and by scrubbing the gas with heavy oil to wash out the benzene vapour and distilling the tar, as much as three gallons of distillate fitted for use as motor spirit can be obtained per ton of coal.

True low-temperature tars of the character yielded by destructive distillation below 500° C. are even more paraffinoid in character, and several processes have been brought forward lately for which it is claimed that about three gallons of motor spirit can be obtained by direct distillation of the tar from a ton of coal, and a further two to five gallons by cracking the naphtha distillates from the tar.

The latter claim is a somewhat doubtful one, but has been seized upon by the advocates of such processes,

who boldly speak of seven gallons of motor spirit per ton from any small coal. In considering such claims, however, it should be remembered that although there may be a few coals in this country which, by careful treatment, fractionation of the tar, scrubbing of the gas and cracking of the suitable distillates, might be made to yield this quantity, the cost of treatment probably outweighs the advantages.

At the present time there is no commercial process working on a large scale which will yield more than the three gallons per ton of coal carbonised that can be obtained from coke oven practice, and the total amount of benzine so recovered will amount to about 8,000,000 gallons per annum, a large proportion of which is exported.

Much might be done in the direction of replacing the beehive coking ovens, that still exist to a very large extent in the north of England, by recovery ovens; but as matters at present stand the amount of benzine available is so small that any large demand would cause it to rise in price even more rapidly than petrol has done.

The Scotch shale oil industry is another source from which motor spirit might be obtained, but the 600,000 gallons which represent the annual output of distillates fitted for this purpose is only about 0.75 per cent. of the total petrol used last year, and a considerable proportion of this is marketed for solvent purposes. The heavier portions of the shale oil, however, lend themselves to cracking purposes, so that unless these fractions are all absorbed for fuel oil they might in the future prove a source of supply.

It must be borne in mind that any petrol substitutes

made from petroleum, coal, or shale are only obtainable in a limited quantity, for in each case the store of raw material is in process of depletion. On the other hand, alcohol is a motor spirit which can be continuously manufactured in any required quantity; and if the Imperial Motor Transport Conference only realises this fact and uses its influence in the first place to stimulate the designing of an engine and carburetter best fitted for use with this liquid, and, secondly, to induce the Government to give the necessary facilities for the manufacture and use of methylated spirit for the purpose, it will have done much towards giving this country a home-produced source of power of which no foreign entanglements can rob us.

By fermentation in bulk, continuous distillation, and judicious methylation, all the motor spirit needed can be obtained and sold at something like 1s. a gallon, and the extended researches of the United States Government have shown that engines can be satisfactorily run on alcohol, whilst in spite of the calorific inferiority of alcohol practically the same power is generated as with petrol, owing to the cooler cycle, smaller quantity of air required and greater compression than can be used without fear of pre-ignition. Thousands of acres of land fitted for the growth of potatoes and beet are lying idle in Ireland and even in England, and when it is demonstrated to the satisfaction of the Government that the motor is ready for the new fuel, the required facilities could no longer be withheld.

Spouter at Dossor.—A small spouter has broken out from well No. 13, plot No. 6, on the Isle of Dossor.

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in the new edition of his *Treatise on Petroleum*, Vol. I, page 314, writes:

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COMPANY REPORTS AND MEETINGS.

BAKU RUSSIAN PETROLEUM COMPANY (1909), LTD.

A Highly Satisfactory Report.

THE report of the directors of the Baku Russian Petroleum Company (1909), Ltd., to be presented at the fourth ordinary general meeting, to be held at Cannon Street Hotel, in the City of London, on Thursday next, is as under:—

"The Directors present herewith audited accounts covering a period of five and a-half months from August 1st, 1912, to January 13th, 1913. This is the first occasion on which it has been possible to consolidate the liabilities and assets of the undertaking both here and in Russia, and the balance-sheet now presented is in the form which will be followed in the future, thereby enabling comparisons to be made from year to year. It will be observed that the financial position of the company is very satisfactory, especially as regards its cash resources.

"The trade debts in Russia, which led to the appointment, in February, 1908, of a creditors' administration of the company's business, as explained in former reports, were finally disposed of in December last, and on January 13th, 1913 (new style), the administration was officially closed, the properties being now under the direct control of the company.

"The first profit and loss account of the company will be for the year ending January 13th, 1914 (corresponding with December 31st, 1913, Russian style). For the short period covered by the present accounts the realised profits on investments, interest received, and other earnings arising from the temporary employment of the company's surplus funds amounted to £15,550. 0s. 2d., being £11,741. 1s. 2d. in excess of the expenditure in London and Russia.

"The mortgage of £124,311 mentioned in the balance-sheet is one which the directors were enabled to effect upon the company's properties in 1910, when making advances to the Russian administration. It secures the debenture-holders in accordance with the scheme of reconstruction and at the same time is, indirectly, a source of protection to the shareholders. The transfer of this item from loans and advances accounts for the largely reduced amount standing under that heading in the present balance-sheet.

"The investments include the company's one-third interest in the Romany-Zabrat Oilfields, Ltd., a separate undertaking which this company, in conjunction with the European Oilfields Corporation, Ltd., and the Russian Petroleum Company, Ltd., formed a short time ago to acquire and exploit, on equal partnership terms, a promising area of about 12 acres in the district indicated by its title, which included a plot belonging to this company too small to work independently. Excellent progress has already been made in the sinking of two wells, the first of which struck oil on the 22nd inst. at a depth of 188 sages (1,316 ft.), and should in the ordinary course shortly come into production. A third well is now being commenced.

The working of the company's properties, according to the accounts of the late administration, gave the following results in 1911 and 1912:—

	1911.	1912.
	Poods.	Poods.
Crude oil sold	4,308,748	4,423,907
Sum realised	Rs. 914,707	Rs. 1,236,248
	Copecs.	Copecs.
Average price per pood ...	21.23	27.95
Cost of production	13.84	15.92
General charges, local interest, royalties, taxes, &c.	5.71	6.01

"The profits made by the administration, amounting in the gross to Rs. 214,396 (£22,780) in 1911 and Rs. 595,667 (£63,290) in 1912, were applied to capital expenditure, depreciation, and reduction of liabilities.

"The accounts of the Baku office for the first four months of the current year, furnished by the company's own staff, show total receipts amounting to Rs. 626,491 (£66,564), and expenditure (including royalties, interest, etc.) amounting to Rs. 320,374

(£34,039), leaving a gross profit of Rs. 306,117 (£32,524). The capital expenditure during the same period amounted to Rs. 276,412 (£29,368).

"The price obtained for the oil sold during June and July was materially better than that realised during the earlier months of the year. The profits, including rents and royalties receivable, are estimated at over £50,000 for the first half of the current year.

"The policy of leasing off some of the plots which the company was unable to exploit on an adequate scale has been attended with excellent results, and it is anticipated that the present year's rentals from these plots will exceed £25,000, which sum is equivalent to the profit on a gross production of nearly 1,500,000 poods of oil. The directors have now under consideration the granting of further leases on terms considered advantageous to the company.

"The quantity of oil used for fuel in proportion to the quantity produced shows a steady reduction, although the full benefits of the large capital expenditure in the substitution of gas, oil, and electric motors for steam power have yet to be felt. It is now nearly three years since the company was led to believe, by the action of the Russian Ministry of Trade and Industry and the Council of Ministers, that a substantial reduction might be expected in the heavy royalties exacted by the Government, but the recent actions of the Government in this connection are far from satisfactory.

"The difficulties of keeping up production from the old exploited areas at Baku are now generally recognised, but this and the consequent increased cost of production are largely, if not wholly, compensated for by the increased selling price of oil. The price of crude, which at the beginning of the year was 37 copecs per pood (48s. 9d. per ton) is now 43½ copecs per pood (57s. 7d. per ton). The company has no forward contracts running for the sale of its oil and is obtaining the full benefit of the prevailing high prices.

"It is hoped in the near future that it will be found possible to exploit with advantage some of the company's properties situated in the outlying districts of Baku, where many of the great local firms (whose operations are carefully followed by the company's staff) are taking up land.

"The local staff at Baku has recently been reorganised. Mr. M. M. Tropp has been appointed general manager, with Mr. A. F. Dabell and Mr. D. Veremenko as field managers at Balakhany and Bibi-Eybat respectively. A geological and chemical bureau is being set up at Baku under the direction of Mr. A. Adiassewich, the company's general technical adviser, with Mr. M. Abramovich as chief assistant. Mr. Adiassewich is about to proceed to the United States to study the latest methods of well-drilling and water shut-off, and to see how far they can be made applicable to the Baku oilfields.

"Apart from drawbacks that are common to all oil producers in the Baku district, the directors feel that the business is now being carried on under most favourable conditions, and they look forward with confidence to the future of the undertaking. Mr. Herbert Allen is the director retiring by rotation and, being eligible, offers himself for re-election."

EUROPEAN OILFIELDS CORPORATION, LTD.

THE report of the European Oilfields Corporation, Ltd., to be submitted to the meeting next Wednesday, covers the period from September 30th, 1912, to April 13th, 1913, a period of six months and thirteen days. The accounts will henceforth be rendered annually to April 13th, and the directors will endeavour to issue interim reports in or about the month of February. The receipts on capital account have been £2,587, by which amount the calls unpaid at the date of the previous balance-sheet have been reduced. The expenditure on capital account during the same period has been £16,965. During the period under review the amount owing to sundry creditors has been reduced by £19,808, and the total liabilities to trade creditors are now less than half what they were at the time of the reconstruction of the company. The company's investments (at

or below cost) stand at £26,562, of which £20,000 represents the interest in the Romany-Zabrat Oilfields, Ltd., and the Midway (California) properties, both of which have been referred to on former occasions. The directors have every reason to suppose that these investments will prove advantageous to the company. A cablegram from Baku, dated July 22nd, states that the Romany-Zabrat Oilfields, Ltd., has struck oil in its first well at a depth of 188 sages (1,316 ft.). The profit and loss account for the period of six and a-half months shows an income from all sources of £34,316, of which general charges absorbed £2,834, leaving a gross profit of £31,481. After providing for debenture interest £5,450 there remains a disposable balance of £26,030, of which the directors recommend that £20,000 should be added to the reserve for depreciation, renewals, and general purposes (bringing the total up to £50,000), leaving £6,030 to be carried forward, namely, to the credit of shareholders £4,824, and to the credit of holders of profit-sharing notes £1,206. The directors had hoped on the present occasion to recommend the payment of a dividend on the company's share capital, but, having regard to the further expenditure involved in deepening the last series of wells, and the desirability of preserving the finances of the company on a sound basis, they do not consider such a course at the moment would be in the best interests of the shareholders. There were on April 13th fifty-two wells, of which forty-four (thirty-eight old and six new) were being bailed, six were under repair, and two were being deepened. The latest mail advices state that forty wells are being bailed, four repaired, and eight deepened. In view of the reduced production from the higher strata, the directors have decided to carry down to the depths originally intended six of the wells sunk last year, and, in addition, to deepen several of the old wells. In order to disturb the output as little as possible these wells are being taken in hand as opportunity occurs, and until the more prolific oil sands are reached no appreciable recovery in the production can be expected. Fortunately, the low output, which it may be hoped is only temporary, is largely compensated for by the present high price of oil. The directors having procured a renewal for a further nine years of the lease of plot 94 Zabrat (which would, in the ordinary course, have expired in 1918), authorised the management to sink a new well thereon. This well has now reached a depth of 101 sages (707 ft.), and it is expected that oil will be reached at 180-200 sages (1,260-1,400 ft.). The company has acquired, on satisfactory terms, an interest in the new oilfield in the Adji-Kabul district, which is situate about sixty miles to the south-west of Baku, and has been favourably reported upon by oil engineers. The total area of the company's freehold and leasehold lands in Russia is 301 acres, of which 31 acres are at present under exploitation. The formal transfer of these properties from the old company to this company is all but completed. The company has not yet obtained confirmation by the Council of State of the recommendation made by the Baku Inter-Ministerial Commission awarding the company boring rights on 4,813 square sages (about 5½ acres) at present held with surface rights only. The appeal of the Russian Government against the decision of the Baku Court confirming the company's title to its Romany plots (about 5½ acres) was fixed for hearing in the High Court at Tiflis in February last and again adjourned. The company's original interests in Roumania (as distinguished from the temporary investments referred to in the last report), consisting of properties leased to the representatives of the Standard Oil Company, present a more promising aspect than at any previous period. The royalties accruing to this company, which at one time had declined to £30 per month, have improved to £300 for the last month reported.

RUSSIAN PETROLEUM COMPANY, LTD.

THE report of the directors of the Russian Petroleum Company Ltd., to be presented at the third ordinary general meeting of the company, to be held at Winchester House, Old Broad Street, next Tuesday, states that to the cash resources shown in the balance-sheet there should be added a sum of about £65,000 accruing for account of this company upon the closing of the receivership of the old company, respecting which an application is now being made to the Courts.

In accordance with the remarks made by the chairman at the annual general meeting, held on December 31st last, the accounts of the Company now submitted are made up to December 31st, 1912, o.s., from which date the profit and loss account will be opened. Future accounts will be prepared to the same date in each year and presented to the shareholders about April or May following. The gross production of crude oil from the properties for the year ended December 31st, 1912, o.s., was:—

Plot 19 Bibi-Eybat	5,574,175 poods
Plot 4 Bibi-Eybat	658,562 „
Plots Khirdalan and Digiah	144,347 „
	6,377,084

The repairing work on the four wells in the south-east corner of plot 19 B.E., referred to in paragraph 5 of the last report has been completed, and the baling of these wells was commenced about the middle of this month, with results, which so far are satisfactory. The quantity of crude oil sold and delivered during the twelve months to December 31st, 1912, o.s., was 4,678,820 poods, realising the sum of Rs. 1,438,715.85, or an average price of 30.75 copecs per pood. The cost of production exclusive of depreciation was 12.3 copecs per pood. The price of crude oil at Baku rose during 1912 from 26½ to 37 copecs per pood, and is now 43 copecs per pood, the highest known price yet reached. At the present time the company's sales leave a substantial surplus, after payment of all working expenses.

The Romany-Zabrat Oilfields, Ltd., the Company formed to work the joint interests of this Company, the Baku Russian Petroleum Company (1909), Ltd., and the European Oilfields Corporation, Ltd., referred to in paragraph 11 of the last report, has recently struck oil in well No. 1 on Plot 49 Romany. Since the last meeting this Company has acquired 7 dessiatines (or 18.9 acres) of freehold oil land at Kir Gez, a district in the neighbourhood of Baku, considered to be of much promise. Mr. Herbert Allen is the director retiring, in accordance with Article No. 102 of the Articles of Association of the Company, and offers himself for re-election. Since last meeting Mr. Richd. R. Tweed has been appointed to a seat on the Board, pursuant to Article 84 of the Articles of Association of the Company, and now offers himself for re-election accordingly.

DETAILS OF GROSNY PRODUCTION DURING APRIL.

THE following table gives the details of production of petroleum on the Grosny fields, together with the number of productive borings and the new depths bored during the month:—

Firm.	Number of Wells.			Total (in poods).	New Boring Feet.
	Number of Plots.	In Exploitation.	In Boring and Deepening.		
Spies Company	31	55	13	1,328,790	1,746
Akhverdoff Company	9	67	22	2,518,500	2,317
Wishaw	4	22	2	513,550	88
Russian Standard	5	15	5	379,340	841
Maximoff Trustees	7	11	5	207,100	415
Anglo - Russian Maximoff Company	2	17	5	247,500	1,156
Tcheleken-Daghestan Company	12	21	11	128,355	2,461
North Caucasian Company	9	20	13	548,000	3,885
Caspian Black Sea Company	2	4	—	25,310	—
St. Petersburg Company	5	8	4	15,000	581
Anglo - Terski Petroleum Company	1	1	1	5,092	5
Moscow Petroleum Company	1	5	2	36,619	305
Skhirtladze	1	2	4	41,000	1,255
Totals	89	248	87	5,594,156	15,058

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Large and constant supplies of Mexican Fuel Oil are now available, and continuity of supply is assured.

Write for particulars and quotations:—

ANGLO-MEXICAN
PETROLEUM PRODUCTS CO., LTD.,
FINSBURY COURT, LONDON, E.C.

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

August 1st, 1913.

The official prices of Refined Petroleum are unaltered as follows:—Russian, 8 $\frac{3}{4}$ d.; American, 8 $\frac{1}{2}$ d.; American Water White, 9 $\frac{1}{2}$ d.; Roumanian, 8d.; Galician, 8 $\frac{1}{4}$ d.

LUBRICATING OILS.

There are no changes to report, prices remaining as under:—

No. 1 Russian, spot and forward, £12. 2s. 6d.
American pale, from £10. 7s. 6d.
American dark, from £12. 2s. 6d.
American filtered cylinder, from £14. 12s. 6d.

FUEL OIL.

77s. 6d. per ton, in bulk, ex wharf, is the current price, and 80s. for grease-making oil.

MOTOR SPIRIT

is being sold retail in London for 1s. 9d. per gallon for the best quality and 1s. 7d. for the second quality.

TURPENTINE.

American Turpentine has eased off to 27s. 6d. for spot; 28s. 3d. September/December.

LIVERPOOL.

August 1st.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8 $\frac{3}{4}$ d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, July 6th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	6	0	2	per case.
White Rose Brand, 150 deg., "	5	12	2	"
Chester Brand, 75 deg., Abel	5	2	2	"
Devoe's Imp. Brilliant, 76 deg., Abel	5	0	2	"
Monkey Brand, 125 deg., American	4	14	2	"
Tiger Brand in tins, 125 deg., American	4	14	2	"
White Camelia Brand in tins, 125 deg.	4	5	0	per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	4	5	0	"
Elephant Brand, 125 deg. (bulk without tins)	3	11	0	per 8 l. gal.
Camel Brand, 125 deg.	4	5	0	per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	3	13	0
Rising Sun Brand, New Tins, per pair	4	7	0
Bull Brand, Bulk, Loose, per unit	3	11	0
Bull Brand, New Tins, per pair	4	0	6
Swan Brand, Bulk, Loose, per unit	3	2	6
Swan Brand, New Tins, per pair	3	12	6
Anchor Tins, per pair	4	8	0
Shell 150 deg. cases, per case	5	8	0
Anchor cases, per case	5	0	0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	5	4	0
" Firefly, per case of two tins	4	15	0
" Chukker, per two tins	4	5	0
" " per 8 gallons	3	11	0
" Victoria, per two tins	3	11	6
" " per 8 gallons	3	1	6
Burmah Wax, per pound, 1st quality	0	4	0
" " 2nd quality	0	3	0
" Candles, per pound	0	4	0

AMERICA.

NEW YORK, July 30th.

Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, July 30th.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, July 30th.

The petroleum prices have remained firm. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA. BAKU, July 30th.

The petroleum market is now firmer. Crude oil is quoted at 43 $\frac{3}{4}$ –44 copecs per pood spot. Mazout, 42–42 $\frac{1}{4}$ copecs. Kerosene, 51–52 copecs.

ROUMANIA. July 30th.

The export of petroleum is for the moment very restricted. The latest prices are:—

	Francs.
Crude oil from different fields, including pipe-line charges, per 100 kgs. Bushtenari	7.75–7.80
" " " Moreni	6.50–7.30
" " " Tzintea	4.25–4.75
" " " Policiori	4.50
" " " Bana, 0.850	8.50
Paraffin	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	29.00–31.00
" sp. gr. 0.715–0.720, f.o.b.	25.00–27.00
" sp. gr. 0.730–0.740, f.o.b.	18.00–20.00
" sp. gr. 0.740–0.755, f.o.b.	16.00–18.00
Residuals, f.o.b. Constanza	5.75
Gas Oil	8.00

AUSTRIA. July 30th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 33 kronen at Oderberg. Benzine, 710/720, 45 kronen; benzine, 740/50, 34 kronen; 770/80, 22 kronen at Oderberg. Gas oil, 8.00 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, E.C., report under date July 31st as follows:—

There has been a little better demand for tinplates of late, but the position is practically unchanged and prices are to-day nominally as under:—

1c	18 $\frac{1}{2}$ × 14	124 sheets	110 lbs.	13/7 $\frac{1}{2}$ per box.
1c	20 × 10	225 "	156 "	19/6 "

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

The American Oil Market.

Saturday, July 19th, 1913.

THE strength of the crude oil situation was accentuated during the interval when all grades of Caddo oil were advanced 2 cents., except heavy oil, which was advanced 5 cents. This is the first alteration in the oil from this district since the beginning of last February. A year ago, says the *Oil Paint and Drug Reporter*, Caddo 38 degrees and above commanded 70 cents. a barrel, against a present price of \$1, while the heavy grade was obtainable at 40 cents. last July. against 75 cents. at present. The revision is a further demonstration of demand exceeding supply and is the reflection of a healthy market. While domestic inquiry continues of record proportions, business has been augmented by the demand from abroad. Official export figures for June reveal a steady gain in shipment over those of last year. During June exports amounted to 16,695,851 gallons, valued at \$757,659, compared with 14,146,689 gallons, valued at \$531,036, for the same month in 1912. For the fiscal year the foreign movement amounted to 177,712,223 gallons, valued at \$7,060,236, against 191,333,177 gallons, valued at \$6,451,490 for 1912.

In reviewing the high-grade petroleum fields east of the Mississippi river, we find a heavy increase in the number of wells completed, but a falling off in new production. This feature is rather unusual, but is explained by the fact that the new wells drilled are small and do not show enough production to offset the decrease in the old ones. It would seem that this incident would form another concrete wall behind the recent advance and operators are taking a bullish view of the situation. Under the stimulus of higher prices, well owners are making every effort to increase production by the drilling of additional wells upon their holdings, but results have not shown the anticipated output. In Western Kentucky, however, developments have been gratifying and wells drilled have shown remarkable staying qualities. Eastern Kentucky is not showing up as favourable as it did in the spring, as the late wells drilled in Wolfe and Morgan counties have been either dry holes or very small producers. The best looking territory in the high-grade fields at this time is located in South-eastern Illinois, South-western Indiana and Western Kentucky. Along this known belt there is no reason why the drill should not make some rich finds eventually.

Stocks of crude petroleum in the high-grade fields during June decreased 774,908.77 barrels, while in the mid-continent fields of Oklahoma and Kansas stocks for the same months show an increase over May of 442,496 barrels. There is great activity in the West Virginia fields, and the intrinsic worth of the outside territory will shortly be known. Outside of the deep sand territory in South-eastern Ohio there is not much excitement. In Perry county a 60-barrel producer was brought in from the Gore district and a 100-barrel producer was located on the Nutter tract.

Refined Products.

No price changes have been recorded in illuminating products during the interval but the market retains a firm position in sympathy with crude oil. A well distributed demand continues to prevail for domestic consumption, and an improved inquiry for future ship-

ment is reported from foreign sources. Charters have been taken out for the British steamer Coniston Water, 140,000 cases, hence to Australia, basis 29 cents., four ports, September-October; British steamer Darnholme, 140,000 cases, hence to the River Plate, basis 27½ cents, one port November-December; Norwegian barque Simetra, 50,000 cases, hence to Montevideo or La Plata, 21½ cents, September. Exports of illuminating oil for June compare favourably with those of last year for equal dates. Total shipments amount to 100,817,464 gallons, valued at \$6,824,336, against 77,599,420 gallons, valued at \$5,001,354 for June, 1912.

Naphtha has continued in steady request, both for local and out of town consuming, and the former values have been fully sustained by leading distributors. Export figures for the month of June show a decline in foreign shipments. The total movement amounted to 12,383,464 gallons, valued at \$1,832,644, against 23,215,166 gallons, valued at \$2,319,456 for the same month last year.

Lubricating Oils.

Sellers' views are unchanged on the basis of previous quotations, and the general market has retained a strong position in sympathy with crude materials. Foreign demand continues fair for the paraffin grades, and the inquiry for high grades for domestic consumption is holding well up to the seasonable average.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were :—

	1912. July 19.	1913. July 19.
Pennsylvania	\$1.60	\$2.50
North Lima	1.02	1.39
South Lima	0.97	1.34
Indiana	0.97	1.34
Illinois, above 30 degrees	0.85	1.30
Kansas and Oklahoma	0.66	0.93
Humble, Tex.	0.70	0.95
Saratoga	0.75	0.90
Sour Lake, Tex	0.75	0.90
Californian, Coalinga light	0.65	0.60
" Kern River heavy	0.35	0.35
CANADIAN OIL	1.42	1.79

REFINED—FOR EXPORT.

In cents.	Week ended July 19.	
	S.W. 110 test.	W.W. 150 test.
Bulk, New York ... per gal.	5.00	6.00
Barrels, New York, cargo	8.70	9.70
Barrels, Philadelphia	8.70	9.70
Cases, New York	11.00	12.00
Cases, Philadelphia	11.00	12.00

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000	\$11.15
1,000 to 3,000	11.25

REFINED—JOBGING LOTS.

In barrels, pkgs. included.	
130 fire test, S.W.	12
150 fire test, W.W.	12½
From tank wagons	9

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29½

TOTAL EXPORTS.

	Current week. Gallons.	Since Jan. 1, 1913. Gallons.	Since Jan. 1, 1912. Gallons.
Crude	1,667,315	68,091,108	73,941,400
Refined	21,781,745	358,631,977	476,325,203
Naphtha	4,977,640	58,671,040	77,862,765
Gas oil	2,065,880	20,189,890	29,488,000
Fuel oil... ..	2,020,200	51,496,140	31,730,185

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IMPORTS OF PETROLEUM PRODUCTS INTO THE UNITED KINGDOM.

Specially prepared for this Journal by the Customs House.

FOR THE WEEK ENDED JULY 28TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
July. LONDON—				
22	Produce Brokers Co.	... Lub.	4,000	Philadel.
22	" "	... "	6,000	N. Orleans
22	Anglo-American Oil Co.	... "	25,960	New York
22	Vacuum Oil Co.	... "	22,700	"
22	" "	... Lub. Gr.	2,910	"
22	Port Authority	... Lub.	6,120	Hamburg
22	J. Waldoek	... "	2,240	Stettin
23	Lubricating & Fuel Oils Co.	...	39,110	Philadel.
23	" "	...	3,080	N. Orleans
23	Mercantile Lighterage Co.	...	33,120	New York
23	Anglo-American Oil Co.	... Lamp	51,970	Philadel.
23	" "	... Naphtha	2,857,050	"
23	E. G. Boize	... Lub. Gr.	210	Hamburg
24	Schliemann Oil, etc., Co.	... Lub. Oil and Gr.	3,050	"
24	Anglo-American Oil Co.	... Lamp	1,416,750	Philadel.
24	" "	... Gas	874,370	"
24	Gerhard & Hey	... Lub.	360	New York
24	Grindley & Co.	...	8,000	"
24	Asiatic Petroleum Co.	... Benzine	5,000	Rotterdam
25	Anglo-American Oil Co.	... Lub.	2,000	New York
25	Anglo-Mexican Petroleum Products Co.	... Fuel	2,312,390	P. Mexico
25	W. H. Müller & Co.	... Lub. Gr.	170	Rotterdam
25	Pfeifer & Co.	...	240	Antwerp
26	Hanseatic Maritime Agency	... Lub.	400	Bremen
28	E. G. Boize	... Lub. Gr.	1,050	Hamburg
28	P. Brancher	...	250	Antwerp
28	Port Authority	... Lub.	80	"
28	"	...	480	Marseilles
LIVERPOOL—				
25/6	Meade-King, Robinson & Co.	...	5,040	Hamburg
22	J. T. Fletcher & Co.	... Lub. Gr.	80	Antwerp
22	H. Parry	... Lub.	150	Riga
22	A. Hardroet	... Lub. Gr.	200	New York
24	Bowring Petroleum Co.	... Lub.	1,130	"
24	" "	...	2,080	Hamburg
24	Pickford's	... Lub. Oil and Paste	540	"
24	Burnaby & Chantrell	... Lub. Gr.	280	"
24	Wilkinson Bros.	... Lub.	530	Ghent
25	Meade-King, Robinson & Co.	... Benzine	50,000	Rotterdam
25	Burnaby & Chantrell	... Lub. Gr.	990	New York
25	American Line	...	80	Philadel.
26	Vacuum Oil Co.	... Lub.	20,700	New York
28	W. Crawford	... Lub. Gr.	440	"
28	White Star Line	... Lub.	3,000	"
28	Valvoline Oil Co.	...	25,000	"
BARROW—				
21	Asiatic Petroleum Co.	... Spirit	1,180,000	Singapore
28	Anglo-American Oil Co.	... Naphtha	741,360	Novorossisk
BOSTON—				
26	W. F. Beaumont	... Lub.	120	Hamburg
BRISTOL—				
22	Pickford's	... Lub. Gr.	170	"
22	Heaton & Co.	...	130	"
22	J. & R. Bush	... Lub.	26,560	New York
25	A. Smith & Co.	... Lub. Gr.	1,200	Hamburg
CARDIFF—				
26	Bristol Steam Navig. Co.	... Lub.	800	"
GOOLE—				
21	Goole Steamship Co.	...	590	"

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
July. GRIMSBY—				
22	T. Wilson, Sons & Co.	... Lub.	250	Malmo
HARWICH—				
21	Great Eastern Railway	... "	240	Hamburg
22	" "	... "	200	Antwerp
24	" "	... "	240	"
25	" "	... "	480	"
26	" "	... "	400	"
HULL—				
22	W. Gilyott & Co.	... "	19,400	New York
22	Wilson's & N. E. Railway	... "	960	Antwerp
23	T. Wilson, Sons & Co.	... "	420	Riga
24	Wilson's & N. E. Railway	... Lub. Gr.	840	Hamburg
24	" "	... Lub.	1,120	Antwerp
24	" "	...	400	Dunkirk
25	T. Wilson, Sons & Co.	...	2,200	New York
26	W. Gilyott & Co.	...	20,000	"
28	Wilson's & N. E. Railway	...	240	Antwerp
MANCHESTER—				
22	D. Currie & Co.	... Lub. Oil and Gr.	3,310	Hamburg
22	J. T. Fletcher & Co.	... Lub.	700	Antwerp
23	" "	...	240	Ghent
25	G. B. Taylor	...	173,760	New York
25	Liverpool Storage Co.	...	28,780	"
25	W. Hodgson & Co.	...	690	"
25	W. W. Jones, Dooly & Co.	...	4,950	"
26	Bramwell Fern & Co.	...	490	"
26	Smith & Forrest	...	120	Antwerp
26	D. Currie & Co.	...	410	Hamburg
28	Meade-King, Robinson & Co.	...	2,000	New York
28	F. Schofield & Co.	...	4,690	"
NEWCASTLE—				
22	Tyne-Tees Steamship Co.	...	170	Hamburg
22	" "	...	3,160	Antwerp
25	P. H. Matthiessen & Co.	...	220	Bergen
25	Tyne-Tees Steamship Co.	...	800	Hamburg
28	" "	...	1,200	"
28	" "	...	720	"
SWANSEA—				
24	M. Jones Bros.	...	130	Bergen
ABERDEEN—				
26	R. C. Reid & Co.	... Lub. Oil and Gr.	150	Hamburg
DUNDEE—				
25	D. Alexander & Sons	... Lub.	2,400	"
GLASGOW—				
22	Maclay & MacIntyre	...	12,000	N. Orleans
22	Clyde Shipping Co.	...	4,060	Antwerp
22	" "	... Lub. Gr.	480	"
26	Allan Bros. & Co.	... Lub.	26,360	Philadel.
28	Clyde Shipping Co.	...	220	Ghent
BELFAST—				
22	J. C. Pinkerton & Co.	...	90	Antwerp
LIMERICK—				
22	Limerick Steamship Co.	...	200	Hamburg
			10,059,920	

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The Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Work Co., Pittsburgh, Pa., U.S.A.

Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

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Benjamin & Gee, 31, St. Mary Axe, E.C.

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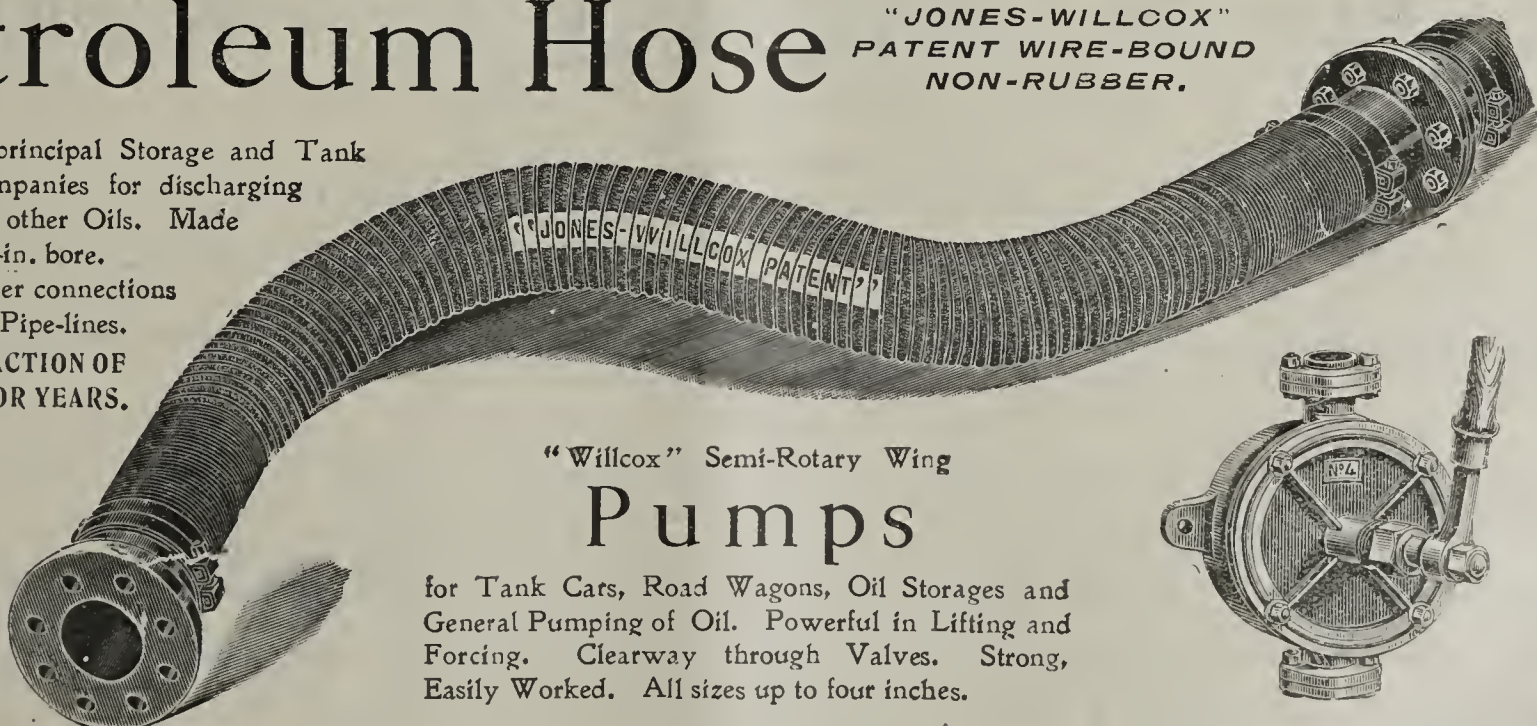
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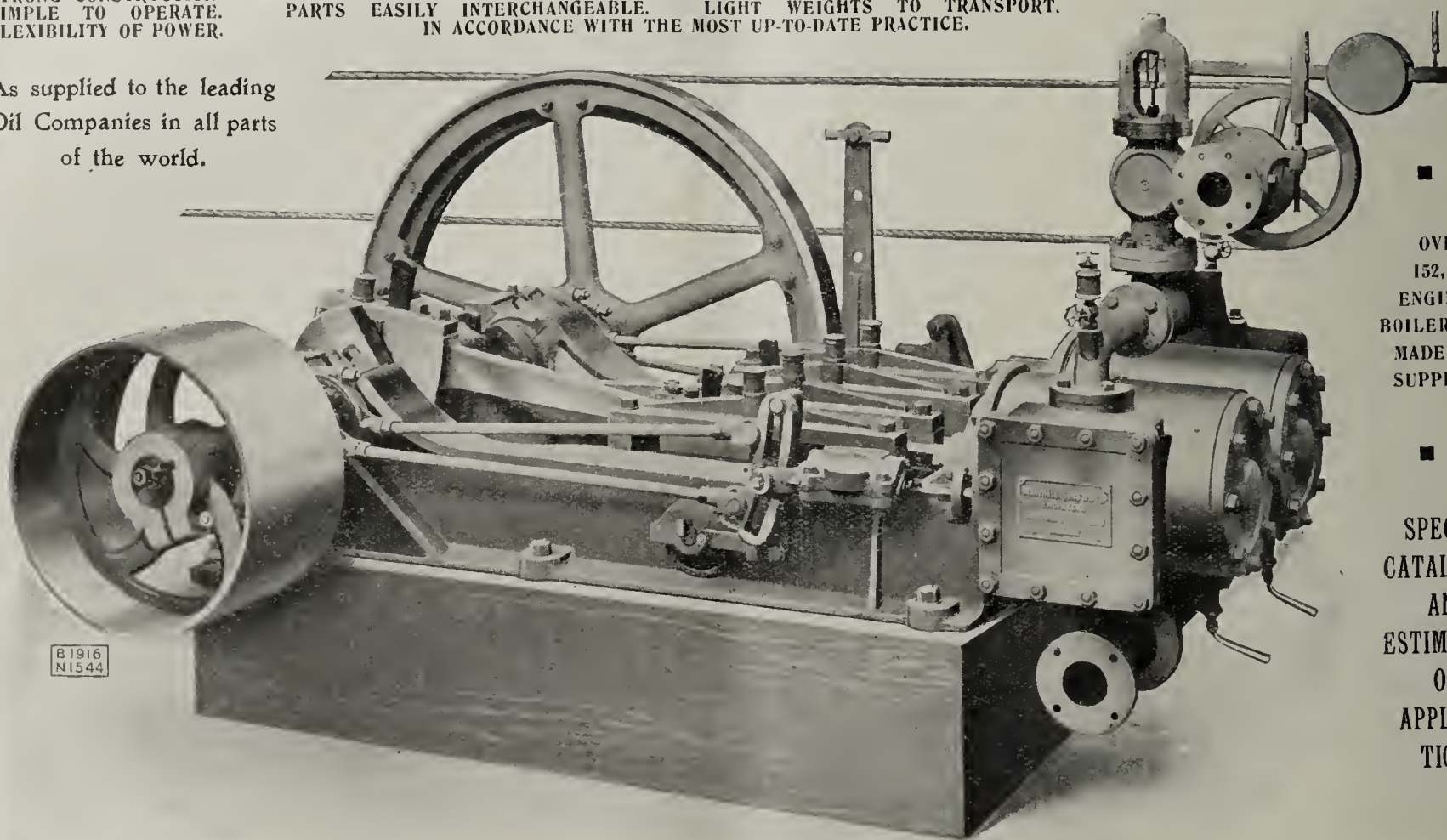
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in the new edition of his Treatise on Petroleum, Vol. I, page 314, writes:

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Founded by PAUL DVORKOVITZ.

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THE PETROLEUM REVIEW.

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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

Roumania's Extending Export Trade.

THE Roumanian petroleum export trade has for years steadily expanded in its international importance until to-day it stands only second to the United States in its volume of petroleum products exported. The most recent figures of its foreign trade—those for the first six months of this year—however, show that this over-sea trade is growing, not in its hitherto steady way, but is advancing by leaps and bounds. For instance, during the first half of the present year, no less than 548,000 tons of petroleum products have been exported from Roumania; in other words, during the past twelve months—since the corresponding period of 1912—Roumania's export trade has increased by over 55 per cent. In spite of the Balkan trouble and the consequent relaxation of activity in regard to the petroleum exports, it can now be assured with safety that during the present year Roumania will export more than 1,000,000 tons of petroleum products. These figures will only be eclipsed by those of America, for that country generally exports more than 6,000,000 tons of petroleum products annually.

The Deposits of the Island of Sakhalin.

THOSE readers who regularly peruse the pages of the REVIEW will already be so well-versed with the subject of petroleum reserves of the Island of Sakhalin that it is unnecessary in speaking of the importance of these to more than just mention the bare name. It is well established that the deposits of petroliferous wealth of Russian Sakhalin are of untold value, and, apart from their prolific nature, stretch over a large region. But there are manifold difficulties in the way of the explorer, and these have been encountered by the various expeditions sent out to the island by capitalists. Under ordinary conditions the period allowed by the Russian Ministry of Commerce and Industry for the

commencement of commercial exploitation of oil claims is generally ample, but in the present case it has been proved to be totally inadequate. Overtures have been made to the Ministry to this effect, and we are pleased to learn that although a year's prolongation has already been made, the certificates are now extended for an additional five years, before the end of which time, we are convinced, the petroleum industry of Sakhalin will be far beyond its initial stages.

"Where Ignorance is Bliss—."

In a recent issue of the *Birjevia Izvestia*—otherwise the *Exchange News* of Russia—we come across an article giving what is purported to be a Russian view of English enterprise in the Russian petroleum industry.

It is not our intention to quote lengthy extracts from the article, but we would say that we are sincerely sorry for the author, who casts a distinctly libellous slur upon all English enterprises operating in the Russian fields. In the past we know there have been many mistakes—and serious mistakes, too—on the part of English companies engaged in the Russian petroleum industry, but let us ask, Where would the Russian petroleum industry have been to-day but for the advent of foreign capital? Our carping critic oversteps the line of fair comment by accusing the English concerns of wasting their energy in various Russian localities rather than concentrating it in one likely area. What an absurd contention! Imagine the adoption of this policy fifty odd years ago when Colonel Drake drilled his first well in Pennsylvania, or when the Surakhani fire temple taught the oil pioneers to search for oil wealth in the Caucasus! Where would California, Roumania, Galicia, the Far East, and all the other great oil-producing territories be if the pioneer had not been possessed of enterprise sufficient to carry his drill beyond the purview of the pessimists? Really we are sorry for the *Birjevia Izvestia*.

The Oilfields of Burma.

WE make no apology for continuing in the current issue a reprint from some of the most interesting portions of the recently published work by the Geological Survey of India of "The Oilfields of Burma," for the subject possesses an importance of its own. For many years the petroleum industry in the Indian empire has been steadily growing, yet almost without exception authors of petroleum literature have but casually referred to the Burma fields. Now, however, thanks to the arduous work of the assistant superintendent of the Indian Geological Survey—Mr. E. H. Pascoe, M.A.—a work has been written which alike does infinite credit to its author and the Government

department issuing it. It is a comprehensive work, full of a wealth of knowledge, and one which will occupy for all time a prominent position in technological literature. As far as possible, we hope to continue the publication of the most important chapters in future issues of the REVIEW.

THE STANDARD OIL COMPANY AND ITS PROSECUTION.

\$500,000 Paid to Settle the Cases.

THE important suit against the Magnolia Petroleum Company, and all the pending prosecutions against the Standard Oil Company, have been settled out of the American Courts by compromise, the Standard Oil Company having paid an agreed sum of \$500,000 into the State Treasury of Texas. Thus ends a string of prosecutions which have extended over a period of twenty years. The original suit sought to obtain penalties from the defendant companies amounting to over \$99,000,000 for alleged violations of the Anti-trust laws.

THE ANGLO-AMERICAN OIL COMPANY, LTD.

Capital increased to £2,000,000.

AN extraordinary general meeting of the Anglo-American Oil Company was held yesterday (Friday) week, when resolutions were passed providing that the capital be increased to £2,000,000 by the creation of 1,000,000 new shares of £1 each, and that £1,000,000, being part of the reserve and surplus fund of the company, be distributed among the shareholders by way of dividend, and that payment of such dividend be made by the distribution of one paid-up share in the new capital for each share held in the present capital.

NEXT YEAR'S INTERNATIONAL OIL EXHIBITION.

WE learn that the organising manager of next year's International Oil Exhibition—Mr. G. D. Smith—is now prepared to receive applications for space, which applications will be dealt with in rotation.

Already there have been numerous inquiries, and Mr. Smith is now practically assured of success, even at this early date.

THE REVIEW understands that four Johnston rotary drilling machines have recently been despatched to Roumania, and two to the Russian fields. The first-mentioned order was for the Roumanian Consolidated Oilfields, Ltd.

THE OIL SHARE MARKET.

IN spite of the holiday season, oil shares are showing a firmer market than for many months past, and the opinion is universally held that the coming boom is now within measurable distance of realisation.

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PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended August 2nd was 107,000 poods.

SPIES PETROLEUM COMPANY, LTD.—Production, week ended August 3rd, including 4,255 poods from ambars, was 240,810 poods, or about 3,884 tons. The total production for the year, from Jan. 14th to August 3rd, was 8,235,500 poods, or about 132,831 tons. The total production for the corresponding period last year was 9,530,965 poods, or about 153,725 tons. Price of crude oil at Baku, 46 copecs per pood.

THE MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended August 2nd was 11,603 poods (187 tons).

THE EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended August 3rd was 97,500 poods, or 1,572 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended August 2nd was 129,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended August 2nd was 32,938 poods (531 tons).

THE MAIKOP SPIES COMPANY, LTD.—The production of this company for the week ended August 3rd was 10,201 poods, or about 165 tons.

MAIKOP NEW PRODUCERS, LTD.—Production for week ended August 2nd was 8,206 poods, or 132 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended August 3rd was 15,696 poods, or 263 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended August 2nd, 118,315 poods or 1,909 tons.

THE NORTH CAUCASIAN OIL FIELDS, LTD.—Production for the week ended August 5th was 188,500 poods, or 3,040 tons. Corresponding period last year, 577 tons. Total production to date for this year, 56,036 tons, last year 15,950 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended August 3rd was 77,133 poods, or 1,244 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended August 2nd was 4,000 poods.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended August 2nd was 4,859 poods (78 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended August 2nd was 2,850 poods (46 tons).

CHELEKEN OILFIELDS, LTD.—The production for the fortnight ended August 2nd was 1,927 tons.

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THE OILFIELDS OF BURMA.

Their History and Development.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

*Reprinted from
"Memoirs of the
Geological Survey
of India."
Volume XL, Part I.*

(Continued from page 128.)

IN 1894 a well yielded 1,050 gallons per initial 24 hours from a depth of 700 ft. in the Beme Reserve; in 1895 three wells over 500 ft. deep each produced 1,000 gallons, but it was not till 1896 that the real richness of the field began to be surmised from the production of wells over 700 ft. deep. The shallow sands became more or less neglected and the company, which had been acquiring by purchase from the Twinzas well-sites within the two reserves, began a systematic and scientific exploration of the whole area. An attempt to enter the field was made unsuccessfully by the Colonial Oil Company, a branch of the Standard Oil Company, in 1901, and the Burma Oil Company alone shared with the Twinzas the ownership of this oil-bearing tract until the end of 1906, when the Rangoon Oil Company began to lease wells from the Twinzas and commenced drilling deep bores early in 1907. In April of that year Messrs. Jamal Brothers & Co., having purchased sites, commenced drilling in the Twinza Reserve and later built a refinery near Rangoon of 2,000 barrels per diem capacity. This company has since joined Messrs. Steel Brothers under the title of the Indo-Burma Petroleum Company, and the capacity of the refinery has been doubled. A fourth company, the Nathsingh Oil Company, was floated in April, 1908, their possessions including bores commenced in the previous year. More recent still are the United Twinyo, the Twinza and the Aungban Oil Companies, the Anglo-Burman and the British Burma Petroleum Companies. The result of the advent of all these rival companies into two small areas of only 450 acres has been a race for the richer sands which Government has found it necessary to control by the appointment of a warden, according to the suggestion made by the oilfield's committee. As the bores are sunk upon Burmese well-sites, and these are often not more than 60 ft. apart from one another, a congestion of inflammable derricks has rendered strict fire regulations desirable, and these have been made at the

suggestion of the committee. Fires have occurred from time to time; the village of East Twingon was at one time entirely wiped out, while another fire caused the partial destruction of West Tringon. A photograph of the Burma Oil Company's Well No. 161, which caught fire and burnt for 24 hours, is here reproduced. A burning spouting well, being almost unapproachable, is extinguished only with the greatest difficulty, advantage being taken of its intermittent action to deluge it with water and sand.



Oil-well Fire in the Yenangyaung Fields.

A careful investigation into the history of numbers of the shallow wells, both hand-dug and machine-drilled, showed that the distance limit of 60 ft. was, generally speaking, too small to prevent the yield of adjacent wells affecting each other. In the case of the deeper wells where the pressure is much greater and the drainage area correspondingly large, this interference is much more marked. As an instance, a well A, when "drilled in," produced 8,000 gallons a day as a flowing well. A week later B, close by, was opened and produced 9,200 gallons. A day later A ceased flowing and afterwards yielded 1,280 gallons as a pumped well. Another example of rapid decline in yield occurred in May, 1909 when a well commenced

flowing on the 17th at the rate of 3,400 barrels a day, but dropped in a week to 1,915 barrels, owing to the competition of neighbouring wells. The drainage area for these deeper sands, 1,000 to 1,500 ft. deep, is probably between 300 and 400 ft. in diameter, and the most advantageous distance between adjacent bores, according to experience, would be on an average about 250 or 300 ft. Water is now beginning to give trouble, but the exhaustive regulations drawn up by the Oilfields Committee should do much to secure the proper casing off of this intruding element.

Another effect these new companies have produced is the enormous rise in the market price of well-sites. In 1895 they could be bought for Rs. 20 to Rs. 100 each. In 1902, after the attempt of the Standard Oil Company to purchase, the value rose to about Rs. 5,000, and between that year and 1906 the average market

value of a good site was Rs. 3,000. In January, 1907, this rose to Rs. 5,000, in December, 1907, to Rs. 10,000, in January, 1908, to Rs. 15,000. At the end of 1908 Twinzas were asking as much as Rs. 60,000 for sites in the best part of Twingon; at present the best sites average Rs. 50,000, the inferior ones fetching between Rs. 25,000 and Rs. 30,000. Position, of course, is everything, and sites along the extreme margin of the field must be looked upon as very speculative purchases whatever the price paid. The following is the production from machine bores since 1888 :—

Production.	Gallons.	
1888	17,468	Burma Oil Company.
1889	179,395	
1890	1,541,854	
1891	2,885,610	
1892	5,423,687	
1893	6,176,637	
1894	6,497,195	
1895	7,280,997	
1896	7,100,926	
1897	8,523,153	
1898	8,238,708	
1899	14,466,543	
1900	19,030,196	
1901	30,619,912	
1902	33,638,863	
1903	49,427,259	
1904	65,677,387	
1905	77,253,105	
1906	88,225,935	
1907	88,912,607	
		Burma Oil and Rangoon Oil Companies.
		Burma Oil Company.
		Rangoon Oil Company.
		Indo-Burma Petroleum Company.
		Nathsingh Oil Company.
		Ditto
1908	115,687,120	
1909	181,188,744	
		810,993,301

Between the years 1888 and 1909 (inclusive) the total production from both machine borings and native wells was 934,886,162 gallons : this is probably rather under than over the correct estimate, since up till the last few years varying quantities were probably smuggled from time to time across country at night. After considering all the figures given in Dr. Noetling's book on the petroleum industry in Upper Burma we may, I think, estimate that the total quantity of oil extracted up to the end of 1909 from this field, is not likely to have been less than 1,100,000,000 gallons ; this allows 165,113,838 gallons for the production before 1888 and for unrecorded quantities.

Perhaps the most interesting feature in connection with the Yenangyaung oilfield is the extraordinary concentration of the oil supply. The actual petroli-ferous area, over which productive bores are scattered, forms an elliptic area within the elliptical Pegu inlier. Its northernmost limit will probably be found to be about $\frac{3}{4}$ mile from the northern edge of the Twingon Reserve. Sweeping round to the east the boundary runs a few yards east of, but parallel to, the eastern boundary of the Twingon Reserve, through the eastern part of Khodaung and the Beme Reserve. The western boundary may be taken as coinciding with, or a little inside of the western boundary of Twingon, and passing through the western parts of Khodaung and Beme village. The southern boundary may be taken as the Taungle Yo, south of which hardly any oil has been found. The oil, therefore, in the various horizons is confined within an area between $1\frac{1}{4}$ and $1\frac{1}{2}$ square miles, and by far the greater part of it comes from an area of less than 1 square mile.

(To be continued.)

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THE FLASH POINT OF OILS.

METHODS AND APPARATUS : FOR ITS DETERMINATION. :

By Messrs. IRVING C. ALLEN and A. S. CROSSFIELD (*of the Washington Bureau of Mines*).

IN the handling of lamp oils, particularly in mines and in buildings where open lights are used, it is important that a relatively safe oil, that is, one with a high flash point, be employed. Equally important is the determination of the inflammability of all oils in common use. This paper, which is published by the Bureau of Mines in the interest of greater safety at mining and metallurgical plants, does not aim to establish definite flash points for oils, but describes the instruments and methods of testing that can be used as a basis on which to establish such flash points. In connection with the discussion of the subject of this paper effort has been made to present a complete bibliography.

In the various methods used for determining the flash point of an oil the temperature at which its vapour flashes is not a definite factor, but is dependent on a number of physical and chemical conditions not under the control of the operator. It is not an indication of the value of an oil for any particular purpose. It is an indication only of the temperature at which the oil gives off vapours in such proportions that they form an inflammable mixture with the air. If exposed to an electric light or a flame the mixture will ignite and the flame extend throughout the mixture; that is, an explosive mixture of vapour and air is formed.

The flash point, although probably the most important factor, will not by itself determine the fire hazard of any substance. The fire hazard of a substance is also affected by the volatility, the boiling point, the vapour pressure, the vapour density, the diffusibility and tendency of the vapours to travel and their explosive limits in air, its tendency to chemical change, the quantity of heat liberated per unit of time and unit of volume, the temperature of the flame, the corrosive action and toxic properties of the substance and of its products of combustion, its behaviour toward water both before and after ignition, and the tendency of the substance to leak.

A requirement that an oil have the highest practicable flash point, tending thereby to reduce the fire hazard to a minimum, is praiseworthy and humane. To require too high a flash point may impair the burning qualities of a lamp oil and also work a hardship on the refiner. However, the immediate profits of the refiner should be deemed less important than the safety of the user and the protection of the public against possible loss of life and of property by fire.

The fire hazard of lubricating oils is of importance when the lubricants are used in rapidly running machinery, as in spinning mills, wood mills, etc., or are used in factories containing combustibles, and in compressors for air, ammonia, or other gases.

Particular attention should always be given to the handling, storage, and inspection of all inflammable liquids.

In the endeavour to ascertain the temperature at

which an oil becomes dangerous many workers have experimented through a long series of years with numerous instruments and methods of testing; have developed many patterns of apparatus, and have ascertained some important facts regarding the determination of fire hazards.

The ordinances in the several States of the United States, regarding the fire hazards of petroleum products, based solely on the flash points of the products, have been formulated independently of one another and seem to have little in common. The testers used are not comparable with each other as they embody different theoretical considerations, vary in dimensions and in construction, and yield results that differ widely. This utter lack of uniformity works a hardship on the refiner and confuses the public.

As early as 1862 the Government of Great Britain realised the importance of obtaining an instrument and a method of testing that would show the tendency of an oil to ignite, and in 1868 Sir Frederick Abel, Dr. Letheby, and Dr. J. Attfield were authorised to investigate the general matter of flash tests. This committee presented for consideration, but without definite specifications, the ordinary open-cup tester, which, however, because of its inaccuracies, did not meet with general acceptance. The subject continued to occupy the attention of Parliament from time to time until 1875, when Abel proposed an instrument that was almost identical with the present Abel-Pensky tester and has since then been considered the official tester of that Government.

About this time—that is, between 1860 and 1880—the consideration of flash point determination occupied the attention of the American public. Testers of various patterns were suggested and have been used independently by the numerous men interested, and many different testers are in use to-day in spite of their inaccuracies and the widely varying results obtained by them. C. D. Chamberlain, secretary and counsellor-general of the National Petroleum Association, stated in 1910:—

“Thirty-four of our forty-six States have laws providing for the inspection of petroleum and its products, and yet no two States have a law in common. This in itself forbids economy in manufacture. If a definite oil has to be manufactured to suit the requirements of each State, there must necessarily be waste.”

The situation has not materially changed since that time.

The testers used in the United States are of many kinds and give different results. The seven best known testers are the Tagliabue open tester, the Tagliabue closed tester, the Elliot or New York State tester, the Foster tester, the Cleveland tester, the Abel-Pensky tester, and the Pensky-Martens tester. In addition, an

ordinary small open glass beaker or porcelain evaporating dish warmed over a flame or on a water or sand bath is still much used.

The open-cup testers, as the Cleveland and the Tagliabue open-cup, with lamp oils, give results about 5° C. above the flash point, and in the case of heavy lubricating oils the flash point may be 25° C. higher than the flash point determined with the Abel-Pensky or the Pensky-Martens testers. The Foster tester reads some 3° C. higher than the Tagliabue "closed tester." The Tagliabue "closed tester" reads some 8° C. higher than the Elliot tester, and 2 to 3° C. higher than the Abel-Pensky tester.

Testers may be grouped into six classes, namely: (1) Open-cup testers; (2) semi-closed testers; (3) closed testers; (4) open testers with saturated vapours; (5) vapour-pressure testers; and (6) distilling testers.

Albrecht, S. Aisinmann, J. Allen, Arnaboldi, J. Attfield, C. F. Chandler (the inventor of the Cleveland tester), the Danes, Ehrenberg, C. Engler, C. Engler and R. Haass, H. Engler, Ernecke and Hannemann, E. Granier, H. Höfer, Hutton (the inventor of the Indiana State tester), E. Jacobson, Kyll, Lenoir and Foster (the inventor of the Minnesota State tester), Möser, G. Saybolt, Squires, Tagliabue, R. Vette, H. N. Warren, V. Weise, and others, experimented with a simple open cup about five centimeters in diameter and seven centimeters in depth. The cup was half filled with the oil to be tested, and warmed on a water bath. From time to time a small lighted taper was exposed momentarily to the oil vapours. When the oil vapours ignited and showed a flash of flame the temperature of the oil was ascertained by a thermometer, the bulb of which had been previously immersed in the oil.

F. A. Courtois worked with lamp oils in a manner similar to that used by other investigators, but warmed his oil cup on an air bath, whereas for lubricating oils R. Kissling, A. Künkler, J. Marcusson, E. Stoeber, and Truemann heated the oil in a small open porcelain dish or crucible fixed in a sand bath, and P. H. Walker used a nickel crucible heated on an asbestos ring. W. Herbig improved this open tester by covering the dish with a fire-clay tile provided with a small hole through which to introduce the test flame.

In all of the open-cup testers the most volatile and

inflammable of the vapours escape first, but not in sufficient quantity to be readily ignited. When the temperature reaches the point at which the vapours are given off in sufficient quantity for ignition the temperature of the oil has risen above its lowest flash point or that temperature at which the accumulated vapours would have been inflammable in a closed vessel, the condition most closely resembling that of oil in the reservoir of a lamp or in an oil tank. The temperature of the oil in the open cup, therefore, is not the true flash point, but is from 5° to 25° C. too high. Also the vapours rising freely from the surface of the oil in an open cup, even in a carefully sheltered room, are exposed to air currents and draughts which seriously interfere with the test; furthermore, the operator may breathe on the surface of the oil, unless he takes most scrupulous care to avoid doing so, and thus cause other variations in the accumulation of vapours, so that the apparent flash point obtained will be too high. The combined errors may cause a variation of from 1° to 12° C. in the determination of the flash point, depending on the substance tested. Moreover, the ignition flame must be applied in a precise manner to insure uniform results, and such application is not practicable in any of these open-cup testers.

Various investigators improved the open-cup tester by adding a cover with a small opening through which the test flame was applied to the vapours or through which the vapours were allowed to escape past the burning taper. Among these investigators were O. Braun, C. F. Chandler, A. H. Elliot, C. Engler, Foster, Heumann, Kuckla, Luchaire, Mann, Millspaugh, E. Parrish (the deviser of the Phlog-elaiometre tester), J. Skalweit, Tagliabue (the deviser of the Wisconsin tester), and others.

Although the semi-closed testers gave more uniform results, considerable variations were noted in determinations made by careful workers, and F. Abel, Pensky-Martens, A. Bernstein, O. Braun, C. Engler, A. Gawalowski, Granier, J. Gray, J. A. Harker, D. Holde, E. Jacobsen, T. W. Keates, Künkler, Letheby, Pease, G. Saybolt, Schmitz, Sintenis, Vette, R. Weber, and H. F. Wiebe, worked with closed testers fitted with a small slide that opened and closed a small aperture through which the test flame could be applied at any desired instant.

(To be continued.)

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LAUNCH OF THE "SILVIA."

ON Tuesday there was launched from the yard of the Tyne Iron Shipbuilding Company, Ltd., of Willington Quay-on-Tyne, a steel screw steamer of the following dimensions, viz.: Length, 367 ft., breadth, 51 ft., depth moulded, 32 ft. 4 in. The vessel, which has been built to the order of Messrs. C. T. Bowring & Co., Ltd., of Liverpool and London, is designed for the purpose of carrying petroleum and other oils in bulk, and is built on the "Isherwood" patent system of longitudinal framing and to the highest classification at Lloyds.

The vessel is fitted with a very complete oil-pumping installation, including oil pumps of large size for working against a heavy back pressure, and is also fitted with a complete system of steam heating coils for creosote and heavy oils in each tank, and also complete installation of gas-freeing pipes.

The machinery, which has been constructed by Messrs. North-Eastern Marine Engineering Company, Ltd., consists of engines having cylinders 27 in., 45 in. and 74 in. by 48 in. stroke, with three single-ended boilers working at a pressure of 180 lbs. On leaving the ways the vessel was named the "Silvia" by Miss M. I. Bowring, of Liverpool.

THE PORT OF TOUAPSÉ.

Improvements commenced which will make the Port one of the Largest in Southern Russia.

ON July 24th a memorable event in the history of the Port of Touapsé took place, for on that day, amid much jubilation and ceremony, the foundation stone of the new improvements was laid down—the concrete stone itself weighing 200,000 poods.

The making of the new Port of Touapsé upon the lines already decided upon will necessitate nearly three years' continuous work, and four million roubles will be required before the contractors have completed their great work. The new port will cover an area of 147,000,000 square feet, and its size will thus be almost equal to that of Odessa port. Touapsé's new port will be available for the world's largest oil tankers, which will be able to enter or leave the various quays without the slightest difficulty.

Simultaneously with this great work others are in course of construction, and it is estimated that when the new port is completed a most up-to-date system of railway transit will connect the port with the interior of Russia. For instance, the coast railway, which will connect Touapsé with the Transcaspian railway, will be laid, as also will be the Touapsé-Armavir railway. The latter lines are already being pushed forward to completion, for this work was commenced during 1911. No less than six tunnels—one of which is almost a mile in length—have had to be constructed. The total length of the new railway will be 222 versts, and it is anticipated that the train journey will be approximately seven hours. The branch of the line which connects the Maikop oil-fields is already completed. The importance of this new railway connection in regard to the development of the Kuban oil regions cannot be over-estimated, for with its completion a great impetus is bound to be given to the search for oil.

ROUMANIAN PETROLEUM EXPORTS DURING JUNE.

THE total quantity of petroleum products exported from Roumania during June amounted to 84,937 tons, as against 77,786 tons exported during the corresponding period of 1912. The quantities of various products exported to various countries were as under:—

	Crude oil.	Benzine.	Kerosene.	Residuals, Gas Oil, etc.
	Tons.	Tons.	Tons.	Tons.
England ...	—	2,333	6,896	6,529
Austria ...	908	714	38	3,512
Belgium ...	—	18	3,874	—
Germany ...	—	7,733	3,764	3,097
France ...	—	6,293	4,832	4,477
Egypt ...	—	—	7,440	3,235
Balkan Peninsula ...	17	92	9,742	583
Holland ...	—	70	—	263
Norway ...	—	—	—	—
Italy ...	—	48	2	6,168
Totals ...	925	17,301	36,588	27,864

In addition to the above products, there were exported during the month 2,222 tons of lubricating oils, solar oils, etc., and 33½ tons of paraffin.

ROUMANIAN PRODUCTION DURING JUNE.

THE total production of crude oil on the Roumanian fields during June amounted to 164,550 tons, as against 161,336 tons obtained during May. The production of the various fields during the month was as under:—

	Tons.
Bushtenari-Calinet ...	14,326
Campina ...	21,327
Moreni ...	88,862
Baicoi ...	2,879
Tzintea ...	7,142
Bordeni Recea ...	7,745
Chiciura-Gropi ...	2,476
Other fields ...	2,075
Total for Prahova district ...	146,809
„ Dambovitza district ...	3,875
„ Buzea ...	10,075
„ Bacau ...	3,798
General total ...	164,550

THE OUTPUT OF BAKU REFINERIES DURING MAY.

THE following table shows the quantities of various distillates and refined products obtained in the Baku refineries during May:—

	Distillate.	Refined Products.
	Poods.	Poods.
Kerosene ...	7,929,253	7,684,426
Lubricating oil ..	2,448,364	1,927,292
Solar oil (light) ...	299,014	712
„ „ (heavy) ...	692,974	—
Benzine ..	1,405,354	167,753
Lubricating residuals ...	3,344,002	—
Residuals ...	15,188,720	—
Goudron ...	77,189	—
Paraffin ...	4,488	3,601
Total ...	21,389,361	9,783,834

Determination of Tarry Matter in Petroleum Products.

By Professor K. KHARITCHKOFF.

Translated from
 "The - - -
 Nefliannoie -
 Dielo." - - -

THE determination of tarry matter in petroleum, liquid fuels and petroleum distillates, is one of the most important problems of petroleum analytical chemistry. Unfortunately, the existing French method of determination is far from being satisfactory and many other methods have, at various times, been elaborated in order to replace it.

The tarry matter is composed of various oxygenous substances of undetermined chemical function. They are of dark colour, practically insoluble in alcohol and benzene, soluble in benzol, ether, chloroform, turps and similar liquids, and are characterised by the action of concentrated sulphuric acid which carbonizes and transforms them into anhydrous substances still less soluble in hydrocarbons. A concentrated form of tarry matter is the so-called pitch, which, besides containing tarry matter also retains a certain percentage of hydrocarbons.

For separation and quantitative determination of tarry substances various methods were elaborated. Dershner's and Holde's methods are based on the various solubilities of hydrocarbons and tarry substances in some organic solvents—namely, Dershner's in fusel oil, and Holde's in petroleum ether. Landsberg, some years ago, proposed to use acetone for the same purpose, but this method has proved far from being efficient. All the three methods are, however, difficult in practice, especially when many tests have to be quickly carried out.

It would, of course, be possible to use physical methods based on the fact that the tarry substances are considerably darker in colour than all other components of petroleum, and that their specific gravity is very close to 1. The substance to be tested can be treated with sulphuric acid, and the colour before and after treatment determined in a colorimeter. At the

same time the difference in the specific gravity before and after treatment could also be ascertained and applied to the determination. But sulphuric acid would at the same time act on and modify the other hydrocarbons, and consequently many complicated corrections would have to be made.

At present the French volumetric method is exclusively used, and is very simple in its principle and practical application. According to this method the quantity of tarry matter in any petroleum product is judged by the increase in the volume of the sulphuric acid or the decrease in the volume of the tested product, which is, after being diluted with benzene, submitted to the action of sulphuric acid, which carbonizes and dissolves the tarry substances. This method is, as already mentioned, very simple and easy in practice, but is connected at the same time with a serious source of errors. Besides the principal action of carbonizing and extracting the tarry substances, sulphuric acid also extracts unsaturated hydrocarbons, polymerises others, etc. Thus, for instance, a simple experience will show that even perfectly well refined oil treated with sulphuric acid decreases in volume up to 8 per cent. But the incorrectness due to this may be obviated. Thus the quantity of unsaturated hydrocarbons extracted by the sulphuric acid can be ascertained by determining the iodine value, and this can then be calculated to an equivalent value in sulphuric acid, according to the very simple formula, $V = \frac{49T}{127d}$,

where V is the volume of sulphuric acid, T the iodine value, and d the specific gravity of the sulphuric acid. In the works, where a great number of tests are continually to be made, the operation becomes very simple, as d—the specific gravity of the sulphuric acid in use—is practically a constant, and so is the iodine value T for a whole series of products.

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„ Servian ...	6,700	„ New Steamer	6,200	„ Luciline ...	5,200
„ Carpathian	6,700	„ „	6,200	„ Le Coq ...	4,700
„ Roumanian	6,700	„ Terek ...	5,200	„ Rock Light...	4,100
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Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	38/6
6% Cum. Pref.	100,000	£10	£11½
Burmah Oil, Ord.	1,100,000	£1	74/3
Pref.	250,000	£1	25/0
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	7/0
Mexican Eagle Oil, Ltd., Non. Cum. Pref. ...	\$8,500,000	\$10	46/0
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	37/6
Pref. (£1 paid) ...	100,000	£1	22/6
Pumpherstons Min. Oil Co., Ltd. Ord. (17/- paid) ..	110,500	17/-	£6
6% Cum. Pref. ...	100,000	£10	24/9
Trinidad Oilfields, Ltd.	268,500	£1	9/0
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	73/9
"B" Deb. ...	160,000	£100	153xd

DUTCH COMPANIES.

Company.	Quotations (per cent.).
Dordtsche Petroleum Industrie My., Ord. ... Aand	179
" " " " Pref. ... "	176
Royal " Dutch " Petroleum Co. ... "	606
Moeara Enim Petroleum Maatschappij ... "	225
Perlak Petroleum Maatschappij ... "	67
Sumatra Palembang Petroleum Maatschappij ... "	223
Zuid Perlak Petroleum Maatschappij, Pref. ... "	56
Tarakan Petroleum Maatschappij ... "	103



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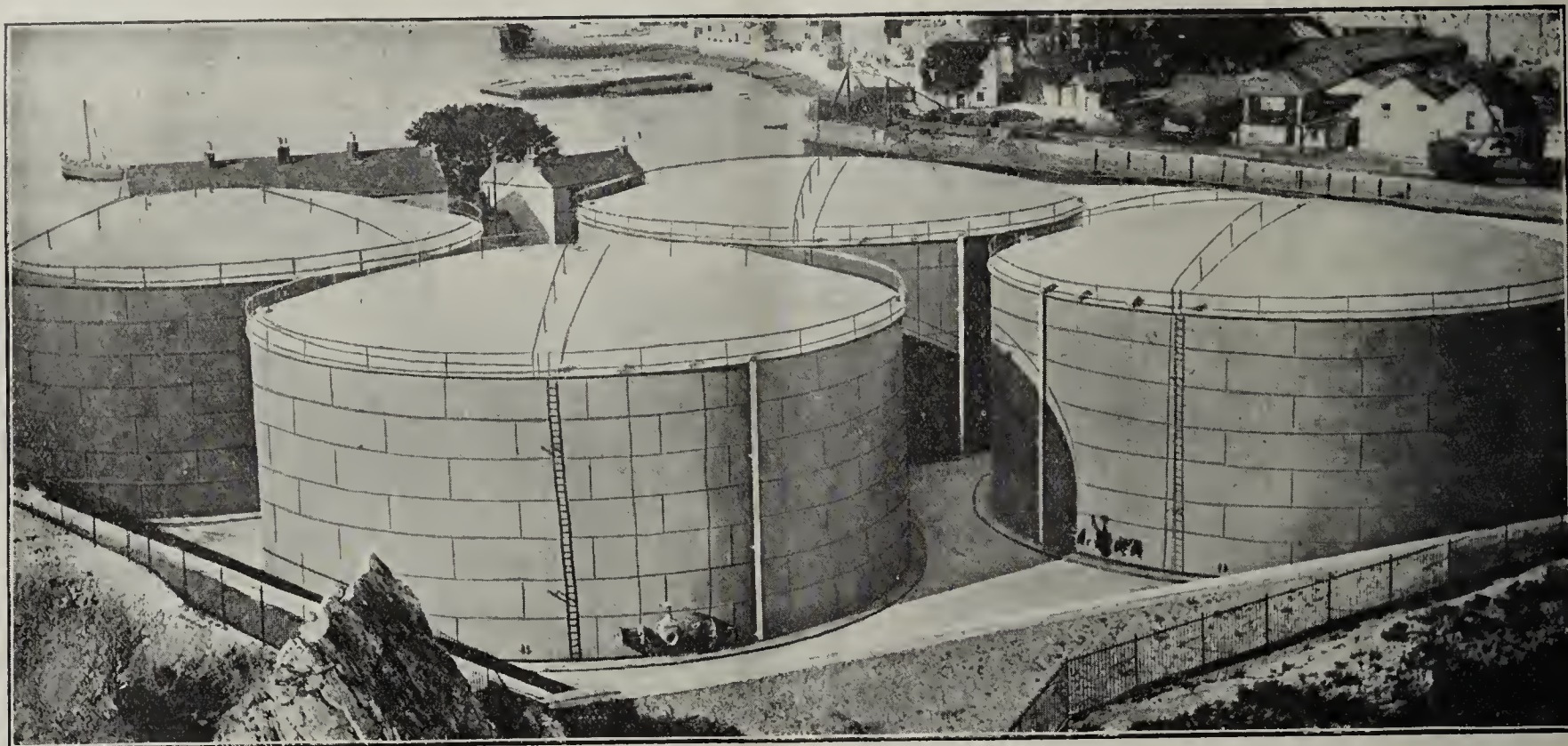
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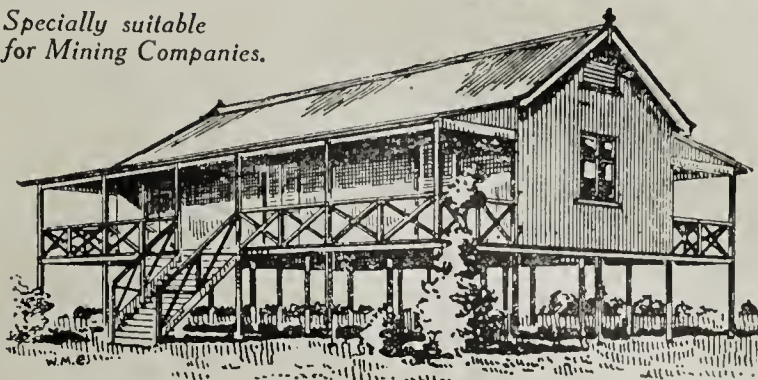
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CHIEF CONTENTS.

	PAGE
Editorial Notes	139
Production of English Companies in Russia	140
The Oilfields of Burma	141
The Flash Point of Oils	143
Determination of Tarry Matter in Petroleum Products	146
Latest Quotations of Petroleum Shares	148
America's Foreign Petroleum Trade	151, 154
Classified Imports	152
Notes from the Oilfields	153
The Russian Petroleum Company, Ltd.	155
The European Oilfields Corporation, Ltd.	157
Home and Foreign Market Intelligence	161
The REVIEW Shipping List...	162
Imports of Petroleum Products	164

— THE — PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, AUGUST 9TH, 1913.

AMERICA'S FOREIGN PETROLEUM TRADE.

THE important position which the United States occupies as a supplier of petroleum products to practically the whole of the world's markets is exemplified in the official returns which have just been published by the Washington Bureau of Statistics, and which embrace the fiscal year ended last June.

In spite of competition from many other producing fields—competition which year by year becomes the more severe—the foreign demand for American petroleum products steadily continues to expand, until the figures which are now made public register a volume and value of petroleum exports the like of which has never before been recorded. For the fiscal year just concluded the United States exported nearly 2,000,000,000 gallons of petroleum products, which represented a value of approximately \$135,000,000. Both in volume and value all other records have been eclipsed, for when compared with the quantities and

values of petroleum products exported for the previous twelve months the volume shows a gain of over 10 per cent., while the value of the exported products has appreciated by nearly 22 per cent.

The consistent growth in America's foreign trade in petroleum products is all the more satisfactory when it is recollected that the expansion is reflected in all the products exported, the one exception in the present case being in regard to the export of crude oil, which during the past twelve months has declined by over 7 per cent. This, however, may be taken as but the natural result of the prevalence of an abnormal period of freights, for it is known that with freights at their present phenomenally high prices, the policy is to carry those products whose market value is greater. No one ever expected the foreign demand for crude to increase so long as ocean freights remain at their present level, and what decline there has been during the past twelve months in America's exports of crude is more than counterbalanced by the higher prices of the crude oil, for its total value is thereabouts 10 per cent. greater than the value of the larger quantities exported for the previous fiscal year.

Illuminating oils still continue to constitute more than 50 per cent. of the total volume of America's foreign petroleum trade, and it is suggestive of the healthy tone which permeates the foreign demand when we mention that, in spite of the tendency which is now everywhere in evidence to displace oil as an illuminating agent, the foreign demand for American illuminating oils continues to steadily expand. True the expansion has not been so marked of late years, but nevertheless the total figures display some slight increases, which in all the circumstances may be considered as highly satisfactory. For the year just closed the United States exported 1,046,000,000 gallons of illuminants, or 5,000,000 gallons in excess of the exports for the preceding twelve months. The increased price of the exported illuminating oil brought up the total value to the substantial figure of \$66,000,000, or over \$6,000,000 more than the value of the exported illuminants for the previous twelve months.

The products of the naphtha classification also show encouraging increase. For some years this branch of export has suffered considerably as the result of the dearth of production of high-grade oils, but it would now appear that, apart from the unabated requirements of the home markets, a substantial proportion is still left free for export. Last year America exported 174,000,000 gallons of naphthas and gasolines, or

sufficient to satisfy the needs of the present English market twice over. The amount exported represents an increase of 13,000,000 gallons over that for the previous fiscal year, but the gain in values last year is over \$13,000,000—a fact which shows to what an extent motor spirits have appreciated of late.

In its foreign lubricating oil trade America continues to take advantages of the openings for increased consumption, and last year's exports—amounting in all to over 210,000,000 gallons—show a gain of over 5 per cent. upon the quantities exported for the immediately preceding year, while the value increment attained 13 per cent.

The exports of residuum, gas oil, fuel oil, etc., however, stand out most prominently in the yearly official figures just published, for whereas the total of twelve months ago was 164,000,000 gallons, it has risen during the twelve months to over 338,000,000 gallons, or by over 105 per cent., while the gain in value has been almost 100 per cent.

The outlook for a further expansion in America's foreign petroleum trade is decidedly healthy, and with a return of freights to something approaching their normal level the exports for the current year should easily touch a new record, while it is certain that the values will be without precedent.

ROUMANIAN PETROLEUM PRODUCTION DURING JUNE.

THE total production of crude oil in the Roumanian fields during June amounted to 165,000 tons, as against 161,240 tons obtained during May. The production of the principal firms was as under :—

	Tons.			
Steaua-Romana	...	...	...	34,775
Colombia	...	...	...	20,412
Astra-Romana	...	...	...	39,650
Romana-Americana	...	...	...	25,982
Concordia	...	...	...	8,428
Orion	...	...	...	4,011
Roumanian Consolidated Oilfields, Ltd.	...	...	...	8,936
International	...	...	...	3,975
Frank Russel	...	...	...	
Secleanu Brothers	...	...	...	
Alpha	...	...	...	2,522
Aquila Franco-Romana	...	...	...	1,522
Traian Romana Oil Company	...	...	...	2,014
Nafta	...	...	...	2,278

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO AUGUST 4th, 1913.

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IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since July 28.	From Jan. 1.	Since July 28.	From Jan. 1.	Since July 28.	From Jan. 1.	Since July 28.	From Jan. 1.	Since July 28.	From Jan. 1.	Since July 28.	From Jan. 1.	Since July 28.	From Jan. 1.	Since July 28.	From Jan. 1.
Belgium ..	—	—	8,630	423,283	—	—	—	—	—	—	—	120	—	4,240	8,630	438,643
Canada ..	—	—	—	7,040	—	23,940	—	—	—	—	—	—	—	—	—	30,980
Dutch Indies ..	—	—	—	—	—	—	—	—	—	21,096,990	—	120,820	—	—	—	21,217,810
Germany ..	—	129,920	33,020	2,110,130	—	—	—	107,120	—	—	—	400	—	2,400	33,020	2,349,970
Holland ..	—	—	—	7,340	—	—	—	—	—	4,627,340	—	—	—	590	—	4,635,270
Mexico ..	—	4,007,400	—	—	—	—	—	—	—	734,700	—	10,361,360	—	—	—	15,103,460
Roumania ..	—	11,052,767	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Russia ..	—	5,339,680	—	8,579,810	—	238,770	—	1,150,000	625,000	1,728,000	—	7,515,100	—	—	625,000	21,445,867
U.S.A. ..	2,050	58,873,316	437,510	28,768,284	7,690	146,620	1,196,520	37,778,270	—	9,827,450	—	—	—	—	—	23,985,710
Other Countries	—	80	100	91,900	—	480	—	—	—	4,859,240	—	620	—	1,260	100	4,953,580
	2,050	79,403,163	479,260	39,987,787	7,690	409,810	1,196,520	39,035,390	625,000	58,124,520	—	20,238,510	39,170	642,235	2,349,690	237,852,415

NOTES FROM THE OILFIELDS.

AMERICAN.

Oklahoma Oil Advanced.—The price of Kansas and Oklahoma oil has again advanced from 88 cents per barrel to 93 cents.

American Oil Imports.—During the past ten months America has imported over 25,000,000 gallons of mineral oils. This is due to local conditions, which make it possible to import crude oil into Texas and motor spirit into California.

The American Navy and Oil Fuel.—We learn that the Navy Department is considering the construction of a number of large fuel oil tanks on the Pacific coast, and it is probable that these will be situated as near Los Angeles as possible.

One Million Dollars per Week.—According to the statistics of the Oklahoma Geological Survey, the value of the crude oil now being produced in Oklahoma is over \$1,000,000 per week. The daily output of the fields is approximately 180,000 barrels.

Mexico's Increasing Exports.—No less than twenty-six vessels were loaded at the Tuxpan terminal during May by the Mexican Eagle Petroleum Company, and over 1,000,000 barrels of crude oil were thus exported. This is a record for Mexican oil shipments.

Where Crude Oil is Cheap.—The REVIEW learns that the Freeport and Mexican Fuel Company has contracted to sell to the Gulf Refining Company a maximum of 3,000 barrels of Panuco crude oil daily, at a price of 40 cents per barrel on barges at Panuco.

A New Louisiana Field.—It is reported that the Gulf Refining Company has recently brought in a good producing well near Mansfield. The capacity of the well is being kept a secret, but sufficient news has leaked out to cause a boom in land for several miles around.

New Californian Companies.—Among the new companies recently registered in California are the Petroleum Gas Reduction Company, Los Angeles, with a capital of \$500,000, and the Harbor Crude Oil Company, Los Angeles, with a capital of \$1,000,000.

Wyoming Natural Gas Reserves.—It is announced that Secretary Lane has informed the Senators of the United States from Wyoming of the willingness on the part of the Department to modify certain of the outstanding petroleum reserves of Wyoming in order to permit the municipalities of Greybull and Basin to test the existence of natural gas within these reserves.

Mexican Oil for the Texas Railways.—It is estimated that the average daily requirements of the Texas and Louisiana railroad system are 8,000 barrels of oil fuel daily. Of this quantity, the Texas Company is under contract to deliver 3,000 barrels daily at Galveston of Topilla crude, and the East Coast Oil Company is to deliver 5,000 barrels daily.

RUSSIAN.

The Elborus Company.—This company has been authorised to increase its capital from 1,800,000 roubles to 2,000,000 roubles.

Baku Petroleum Deals during June.—The Exchange Committee has registered deals during June for 3,215,000 poods of petroleum, 1,700,000 poods of residuals, and 175,000 poods of kerosene.

Oleonaft.—Under this name a company has been formed, with a capital of 2,000,000 roubles, for the purpose of production and refining of petroleum on the fields and refineries of Mr. L. M. Leites.

Mangishlak Petroleum.—The Mangishlak district is well known locally for its petroleum wealth. Oil has been discovered in several localities, and in many places kir deposits are numerous and close to the surface.

Eastern Caucasian Petroleum Company.—Under this name a company has been formed, with a capital of 1,500,000 roubles, for the purpose of acquiring the enterprises of Kulibekoff and Firsoff, consisting of petroliferous lands, a kerosene refinery, and installations situated in several places in Russia.

Petroleum in Central Asia.—The zaiavki fever in Central Asia has not until recently gone further than Ferghana, but since April last it has spread to the Semiretchensk Province, where a person connected with an Emba group has put up 1,600 zaiavki posts. The administration of the province is in great difficulties owing to the total absence of plans.

Exports of Petroleum Products from Baku during June.—The total exports of petroleum products from Baku during June amounted to 41,416,000 poods, as against 40,300,000 poods exported during June, 1912. The exports included 6,605,000 poods of crude oil, 23,480,000 poods of residuals, 8,995,000 poods of kerosene, and 2,327,000 poods of lubricating oils.

A New Large Petroliferous Area.—A large petroliferous area has been opened near Verni, in the proximity of Alakul Bay, at the southern end of the lake Balakash. The first zaiavki were acquired by a group of Volga capitalists, with Mr. D. V. Sizotkin at the head. Baku petroleum producers are also taking great interest in the new area, and the shores of Balakash have now become full of activity.

ROUMANIAN.

Prices of Products.—The prices of products are stationary. Benzine is not in great demand and the prices are weak, but residuals are in great demand at enhanced prices.

The Steaua-Romana.—The production of this company during the week averaged 1,056 tons a day, of which 580 tons were obtained at Campina and 250 tons at Policiori.

Prices.—The price of crude oil is on the increase in comparison with the prices quoted prior to the mobilisation had taken place. The quotation is 7.25 to 7.40, on the basis of Bushtenari oil.

Exportation.—The export trade has not been active during the past week. From the 4th inst., however, the railway administration has taken measures for more regular transports to Constanza.

Astra-Romana.—The production of this company during July amounted to 36,087 tons, of which 27,227 tons were obtained at Stavropoleos, 5,800 tons at Bana, 1,994 tons at Campina, 933 tons at Filipeshti, 114 tons at Baicoi, and 19 tons at Glodeni.

Eruption at Filipeshti.—A violent eruption of gas and water mixed with oil has broken out from well No. 9 of the Astra-Romana at Filipeshti. The eruption, which occurred on the 24th of July, lasted eight days. The well has a depth of 1,035 metres.

General Production.—The production has been recently somewhat reduced during the last few days. The cause is that, owing to stores being full and the transport being stopped, some companies have had to restrict their production. Especially in the districts of Buzeu and Bacau the production has been hindered by the absence of transport.

AMERICA'S FOREIGN PETROLEUM TRADE.

Official statistics
for the past fiscal
year.

CONTINUED GROWTH IN SPITE OF COMPETITION.

THE Department of Commerce at Washington has just issued its yearly return of petroleum exports during the past fiscal year, which closed at the end of June. The details of these exports, which are referred to in our leading article this week, are as under :—

	1912. Gallons.	1913. Gallons.
ILLUMINATING OIL—		
Baltimore	4,076,739	134,876
New York	584,153,267	561,426,167
Philadelphia... ..	261,310,807	247,467,820
Galveston	734,976	165
New Orleans... ..	13,776,208	53,712,534
Sabine	82,307,533	77,283,125
Arizona	1,126	8,104
Puget Sound... ..	1,039,038	1,631,455
San Francisco	87,078,947	96,431,943
Buffalo Creek	998,550	321,745
Cuyahoga	3,693,652	6,210,926
Minnesota	2,283,232	2,325,159
Totals	1,041,454,075	1,046,954,019
Values	\$59,689,337	\$66,039,790
LUBRICANTS AND PARAFFIN—		
Baltimore	9,429,231	13,534,409
New York	132,694,077	141,444,037
Philadelphia... ..	50,001,027	45,599,736
Galveston	730,292	654,662
New Orleans	2,315,556	2,115,886
Sabine	329,717	732,409
Arizona	16,752	10,401
Puget Sound	188,382	183,473
San Francisco	575,503	993,459
Buffalo Creek	2,829,737	3,942,400
Cuyahoga	551,231	315,622
Minnesota	346,650	1,180,935
Totals	200,008,155	210,707,429
Values	\$25,613,660	\$29,120,443

	1912. Gallons.	1912. Gallons.
MOTOR SPIRIT—		
Baltimore	34,305	26,815
New York	102,369,877	93,656,701
Philadelphia... ..	21,226,211	20,611,914
Galveston	19,343	28,707
New Orleans... ..	5,358,806	7,887,382
Sabine	8,685,726	9,717,174
Arizona	19,206	19,111
Puget Sound... ..	309,707	1,546,149
San Francisco	198,241	393,407
Buffalo Creek	7,007,350	11,194,087
Cuyahoga	11,219,849	22,944,087
Minnesota	4,908,950	6,046,872
Totals	161,357,571	174,072,406
Values	\$14,589,851	\$23,883,041
RESIDUUM, GAS, OIL AND LIQUID FUEL—		
Baltimore	104	21,697
New York	52,654,283	34,705,648
Philadelphia... ..	21,745,144	30,961,510
Galveston	—	270
New Orleans... ..	155,438	1,023,341
Sabine	12,417,225	78,068,758
Arizona	—	—
Puget Sound	185,123	3,711,370
San Francisco	5,206,713	155,858,013
Buffalo Creek	—	2,264,825
Cuyahoga	12,280,436	14,389,117
Minnesota	137,992	1,295,606
Totals	164,782,458	338,300,155
Values	\$4,279,349	\$8,401,216
CRUDE OIL—		
New York	54,159,101	38,352,436
Philadelphia	1,084,332	1,003
Galveston	636	35,510
New Orleans... ..	6,210,804	14,507,096
Sabine	7,437,577	2,050,478
Puget Sound... ..	26,379,798	61,596,882
San Francisco	48,132,691	11,487
Buffalo Creek	5,160,625	—
Cuyahoga	28,286,279	45,243,845
Minnesota	242,874	86,604
Totals	191,333,177	177,712,223
Values	\$6,451,490	\$7,060,236
TOTAL EXPORTS—		
1912	1,758,935,436	\$110,623,687
1913	1,947,746,232	\$134,504,726

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The Russian Petroleum Company, Ltd.

Third Annual
Meeting of
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THE COMPANY ENTERS ON A PERIOD OF PROSPERITY.

THE third ordinary general meeting of the Russian Petroleum Company, Ltd., was held on Tuesday at Winchester House, Old Broad Street, E.C., Mr. Herbert Allen (Chairman of the Company) presiding.

The Secretary (Mr. E. W. Lowe, A.C.A.) read the notice convening the meeting and the auditors' report, after which the chairman rose to move the adoption of the report and balance-sheet. In doing so he said:—The only public criticism I have seen on the accounts now before you is that they are vague as regards actual results for the period of fifteen months prior to their date, and quaint because they do not indicate the financial results of the year. That is not accurate criticism. At first sight, no doubt, they must appear somewhat meagre, but you may rest assured there is good and sufficient reason for that. The reason is that this company only took over the working of the business at Baku as from December 31st last (old style). Until then a receiver for the debenture-holders of the old company was in possession of our properties and was accountable for his receipts and disbursements only to the Court which appointed him; receivers issue neither profit and loss accounts nor balance-sheets to shareholders or anyone else. Therefore, it would have been very unusual and very quaint, under all the circumstances, if you had received anything beyond what we have given you. While the board could exercise a certain power to direct the management of affairs through the receiver, technically there was no business in Russia being carried on by either the old or the new company up to December 31st last; it was impossible, therefore, that the company could render a profit and loss account for 1912. All that we have professed to give you, and practically all that it was in our power to give you, is a statement of the company's receipts and expenditure on capital account in London. But the company now being in possession of the Baku business, the auditors there and in London will proceed forthwith to consolidate the accounts of both offices, and the next time we meet you should have no cause to complain of the paucity of figures either on capital account or profit and loss. All that we are able to give you at present relating to the Baku business is a few statistics of production, delivery, market price and so forth, which we thought might interest you and serve as material for a few calculations as to current profits which any of you may from time to time have a mind to make. It was never intended, of course, that this company should have general meetings at such short intervals as six or seven months, and it is now only seven months since we held the last meeting. All that our articles and the statute require is that we shall hold a meeting once at least in each calendar year, and we might have postponed the present meeting until the end of December next. But even then we should be unable to give you the first complete year's accounts, as they will naturally take some time to audit locally and in London, so we thought you might like to have an interim or provisional report of our doings. That is why we are holding this meeting, which may be regarded as something which in certain quarters would be termed an "extra turn." You will be glad to know that all the trade debts of the old company outstanding at the time of the reconstruction have since been paid; our liabilities to the old debenture-holders, assumed under the scheme of reconstruction, have been entirely discharged; and the only material liability of the old company now outstanding is the balance of the Government debt, which we are liquidating by arrangement at the rate of £1,000 per month. At the same time the properties have been handed over by the receiver and liquidator, and are now held in Russia in the name of the new company—this company—and we are only awaiting the receiver's discharge by the Court to also take over the money left in his hands after discharging the final claims against the receivership. This balance, the receiver tells us, will amount to about £65,000, and will be a useful addition to the cash in the hands of the company here and at Baku. Apart, therefore, from any profits that we may make and accumulate in the meantime, our next balance-sheet should make a very satisfactory show of cash.

The total area of the lands taken over by the company is 73 dessiatines, or 198 English acres, of which over 50 dessiatines is non-royalty land, or what we usually speak of as freehold. Our plot of 10 dessiatines (27 acres) at Bibi Eybat (No. 19) is one of the only two freehold plots on that field; all the rest are leased by producers from the Government on royalties varying mostly from 35 per cent. to 40 per cent. of the net production. At the last

general meeting, Mr. Barnett, in my absence, told you something about our promising freeholds at Khirdalan and Digiah. From the former we are receiving excellent reports on the work in hand. Our lands at Digiah we had reported upon a few months ago, and we have been encouraged to sink some trial wells there. We have acquired seven dessiatines of freehold land at Khir-Gez—where promising developments have taken place of late—and, as you were told by Mr. Barnett, five dessiatines of freehold at Karadai. Besides this there is our one-third interest in the Romany-Zabrat Company, which has commenced operations on a considerable scale, and so far with every indication of success. Oil has already been struck in the first well; the second well is almost down to the oil horizon, and a third well has been commenced. Should the first well give a satisfactory production the company will promptly commence further wells, and the managers will start them with valuable geological knowledge which they did not possess at the outset. In whatever direction around Baku oil may be met with in future in paying quantities we ought not, with our various holdings, to be very far off the spot. At Batoum, on the Black Sea, we have five acres of freehold storage and other property, which would have considerable value in the event of oil exports ever being resumed at that port.

Since our last general meeting the company has gone through a particularly trying, if not critical period. For reasons which were fully explained on that occasion, we had to close down a group of five of our best wells, situated in the south-east corner of plot 19—our renowned plot at Bibi Eybat. When I tell you that we have usually about forty wells of one sort and another producing oil, and that the five wells just referred to gave nearly one-fourth of our entire production, you will realise that the fate of these wells was almost a matter of life and death to the company. Owing in a large measure to the earthquake of two years ago and subsequent slides and displacements, the casing of these wells became so damaged that normal baling was impossible, and in a short time they gave nothing but water. It was found that the wells could not be taken in hand singly for repairing and cementation, and ultimately, towards the end of last year, we resolved to close down the whole five. In place of 120,000 poods per week, which we averaged for the whole of 1912, the end of the year saw us getting less than 100,000 poods, and as recently as six or seven weeks ago, owing to temporary stoppage of some other wells, our output was only 77,000 poods. The end of June saw the work of repairing the damaged group completed, and for the first week in July our production recovered in a bound from 78,000 to 102,000 poods. Since then it has increased to 107,000 poods, and if we can keep it at anything like that figure until some more wells come in we shall have little cause to complain. I may tell you that, besides the thirty-six wells now baling, we have sixteen temporarily stopped, eleven deepening and repairing, and three entirely new wells in course of boring. These, with three abandoned wells, make up a total of sixty-nine altogether, of which fifty-nine are on plot 19, Bibi-Eybat. You will see from this that we have plenty of work in hand, from which we should benefit in the future. Before leaving this subject I should like to say that I think we are greatly indebted to our engineer, Mr. Ludwig Bardsky, for the painstaking and successful manner in which he has grappled with the water and other difficulties in the group of wells that have just been restored to production.

Had we, like many of the producers, been Government victims of a 40 per cent. royalty, we could scarcely have paid our way when the weekly production fell below 80,000 poods; freedom from royalties on plot 19 has been our salvation. As I have just mentioned, our present production is over 100,000 poods per week, which quantity, free of royalty, is the equivalent of about 170,000 poods, subject to a royalty of 40 per cent. That is a point always worth bearing in mind by shareholders. Our plot 53 Bibi-Eybat is held on lease from the Government, subject to a 40 per cent. royalty, and, except for one well, we leave it severely alone. It pays us better to put our capital into our adjoining freehold plot 19 and pay a dead rent of £1,000 to £2,000 a year for plot 53 than it does to exploit plot 53 under such an outrageous royalty, although it is excellently situated from a geological standpoint and probably as prolific as plot 19. That is an example of how the Russian Government strangles the enterprise of the oil producer. If the Government would accept reasonable royalties, as they have talked for years of doing, we would commence new wells on plot 53 tomorrow and the community would benefit with ourselves. There are scores of capitalists who would do the same thing if the Government would only treat them fairly. It is the rapacity of the Government, with its 35 per cent. and 40 per cent. royalties on crude and its 60 copecs excise duties on refined oil that is stifling the industry and fomenting famine prices to the public. Furthermore, the Government has allowed the old areas to be exploited in such a reckless and unscientific manner that many of them are now little more than watersheds, whilst new areas, rich as many of them

are known to be in oil, are fought shy of by capitalists for the reasons I have already stated. Happily, this company, in respect of 80 per cent. of its production, is free from the Government shackles in the matter of royalty. Our only liability to the Government is the sum of £1,000 per month, for which we shall be victimised for about two more years. It represents the balance of £50,000 which the Government condescended to lend us in consideration of damage done to our properties during riot and racial disturbances countenanced, if not fomented, by its own agents. Had we been fairly treated we should have received £100,000 to £150,000 as compensation instead of being compelled by force of circumstances to accept a sum of £50,000 as a loan.

You will naturally expect me to say a word or two about the price of oil, for price is of quite as much importance to us as production—perhaps more so. Between 1901 and 1904, the period of phenomenal production, the average Bourse price of crude oil at Baku ranged from 6½ to 14½ copecs per pood; in 1905 and 1906, the period of the great riots and racial disturbances, it fluctuated between 20 and 25½ copecs; from 27½ copecs in 1907 it dwindled to 15 copecs in 1910; it averaged 21½ in 1911; and in 1912 the average had risen to 35. The latest price reported is 46 copecs per pood (59s. 6d. per ton), or nearly seven times what it was a dozen years ago. At first sight this may seem an unreasonable rise, but it is not so in reality; it is purely a question of supply and demand. For six or seven years Russia's output of oil was steadily declining, and even now, notwithstanding the large amount of new boring in so many directions, it is barely maintained at the figure of two years ago. All the time the demand for every kind of fuel is increasing. Trade throughout the Russian Empire is abnormally active in every branch; railways are extending and roads and waterways improving; factories are being erected and mines opened up. There is a growing population, the material condition of the people is improving, and the requirements of the community are increasing. In almost every industry we hear complaints of neglected orders and slow delivery—we are experiencing it ourselves in the oil business—for machinery, motors, engines, well-casing, cement, and almost everything that we need we are kept waiting. The immediate consequence of all this activity is an insatiable demand for fuel of every kind and everywhere, not only for oil but for coal and wood as well—a demand which it is impossible to cope with. Fuel in Russia, and, in fact, almost the world over, is in more than one sense the "burning" question of the day. To some of us it may be surprising to hear that Russia's consumption of wood is estimated at 60,000,000 tons per annum, and the price in the last two years has increased as much as the price of oil. The consumption of coal is estimated at over 35,000,000 tons. The coal famine is almost as acute as that of oil, and, in the face of enormously increased output and imports, the price never stops rising. From her coal mines in the Donetz basin alone Russia looks like raising about 27,000,000 tons this year, as compared with 21,000,000 tons in 1912. In the first three months of this year Russia imported 55,500,000 poods (nearly 1,000,000 tons) of coal, in comparison with 23,250,000 poods during the corresponding part of last year. Yet coal prices in Russia are higher than ever. With the price of wood and coal going up, in face of this enormous supply, by leaps and bounds, what wonder that oil—the supply of which is stationary and which is everywhere in demand for so many uses besides fuel—should command famine prices? All the talk about monopolies, exorbitant prices, manipulation of markets, speculation, and the autocratic methods of producers is the sheerest nonsense. The one and only influence at work upon the price of oil is the law of supply and demand. With famine one must expect famine prices. We see the Russian Government posing as the friend of the consumer, and Government officials seriously reporting to their Departments that speculation constitutes the main factor in what they call the alarming rise in oil prices. The high price is due to the short supply, and for this short supply the Government itself is almost wholly to blame. Its general attitude towards the industry in the past and the preposterous royalties which it exacts from producers have deterred capitalists from opening up new areas and more fully exploiting the old ones. The present position is the consequence. Under all the circumstances there is nothing unreasonable in the present price of oil in Russia, when one considers the great uncertainty, the great expense, and the great risks attending its production, besides the fact that fortunes have to be sunk in finding and proving new fields, and that depreciation on an exploited field is very rapid. What was unreasonable was the ruinously low price which prevailed for so many years. In a country like Russia one needs an exceptionally large margin to work upon if one is to come out with a profit, however insignificant, in the long run. Incidentally, I may mention that at 46 copecs per pood, oil is cheaper in Russia than it is in Roumania, Galicia or the United States, the three other great oil-producing countries of the world.

I will now return from the general to the particular, and deal with the price realised for the oil obtained from our own properties. In the earlier days of the receivership a contract was made for the sale of our oil at 26½ copecs per pood, plus half the average monthly Bourse price in excess of that figure. Under this contract, which expired last May, we realised in 1912 an average of 30½ copecs per pood, and from January to May in the present year, an average of about 33 copecs. More recently, we have effected what we consider a very satisfactory contract for the sale of all our oil from the Bibi-Eibat plots for two years from June 1st, 1913. Under this contract we are assured a minimum price throughout these two years of 30 copecs per pood (about 38s. 9d. per ton), which would leave us an excellent margin of profit, taking our expenses at 12 or 13 copecs. At the same time, no matter how high the price may

go, we get the full benefit of the rise, minus only one copec. In other words, we pay for these advantages—that is, heads we win, tails we don't lose—and insurance premium of one copec per pood. We have other contracts, almost equally favourable, covering any production we may obtain from our new plots at Digiah and Khirdalan, but these are at present of quite minor importance. For the month of June we realised for our deliveries under the new contract an average price of 38 copecs per pood, and for July we look like getting from 43 to 44 copecs.

So far I have dwelt, perhaps, a little unduly on the past. Now let us look at the present and the future. Taking our gross production at about 450,000 poods per month, we should be able to deliver to buyers about 330,000 poods, and this at 40 copecs would give us an income of 130,000 roubles, or, roughly, £14,000. Our standing exploitation expenses may be put down at about 40,000 roubles, and we could increase our output largely without adding materially to that figure. There is a point below which one cannot get the standing charges, however low the production; in our case it is between £3,000 and £4,000 per month, and with this knowledge in his possession any shareholder can make a rough and ready calculation of current profits by taking the weekly or monthly gross production, deducting about 25 per cent. for fuel and royalties and taking the remainder at market price. He will then know the value of the oil sold, and the difference between that and the standing charges is the gross profit. Considerable economies in fuel should accrue from the installation of electric power when connection is made with the power company's station. On the other hand, I am afraid we must look for an increase in wages. On this basis, you will gather from the figures I have just given you, that our surplus over working expenses at the present time is about £10,000 per month, part of which goes in meeting our capital expenditure and instalments of the Government loan.

According to estimates prepared by our Baku office, we should have there by the end of the year cash and bills receivable amounting to about £60,000, and over here we expect to have a cash balance of £65,000 to £70,000. There is a footnote to the balance sheet reminding you that in May next we shall be under obligation to pay a considerable sum by way of interest to our Debenture holders. In view of that we are husbanding our cash resources, and shall continue to do so until the matter is disposed of. I allude to this subject because it is one which has been referred to by some of the shareholders; and I think you may all be glad to know that the directors view the prospect before us without any misgiving. You will be pleased to see from the report that Mr. Richard Tweed, who for some years was our general manager at Baku, but who is now domiciled in England, has joined the Board of Directors. I need scarcely say it is an immense advantage to the rest of the Board to be able to confer with Mr. Tweed at almost any moment on the questions that arise almost daily between the London and Baku offices. Our present general manager is Mr. T. C. Weskin, who has been with the Company for some years; Mr. N. A. Krikoriantz is our field manager; we have appointed Mr. C. D. F. Ball our local secretary; and in Mr. Ludwig Bardsky, our consulting engineer, we have a gentleman of admitted standing and ability in his profession. Probably at no previous period in the history of the Company has the general organisation been on such a satisfactory footing as it is at the present time, and, provided we are spared the threatened labour troubles, or a repetition of the bad luck of last year, it would look as if the company had at last entered on a period of prosperity.

Mr. Richard Barnett: I shall content myself with adding only a very few words to what the chairman has said. There are one or two points, however, to which I should like to refer. One is with regard to the repair of the wells in the south-east portion of plot 19 Bibi-Eybat. You may remember how I told you last December that the Board had decided upon a somewhat heroic policy in closing down these wells, which accounted for so large a proportion of our production. We felt it was the only thing to do. We did it with some hesitation on account of the high prices ruling for petroleum; but we asked for your approval of that course and you were good enough to give it to us. I think, after six or seven months, of weary waiting, you will now reap your reward in an increasing production. At the present time the production is steadily going up, although these wells are being baled slowly so as not to put any undue strain on the recent cementation work. There is one other point which I should like to mention, and that is our interest in the Romaui-Zabrat Oilfields, Ltd. I am myself chairman of that undertaking, the whole of the shares of which are held by this company, the Baku Russian Petroleum Company and the European Oilfields Corporation. There we are exploiting what is a new field, or rather it is the debatable ground between two old fields, Romany and Surachani. The work done so far, as the chairman has told you, has been extremely satisfactory. We started our first well as recently as last November, and it is already on oil. No. 2 well is very near the oil horizon, and within the last week or two we have started a third well. I have great hopes that in the near future Romany-Zabrat will prove a source of income to this company and to our partners in the enterprise. I beg to second the resolution.

No questions being asked, the resolution was put to the meeting and carried unanimously.

Mr. Emil Luden proposed the re-election of Mr. Herbert Allen and Mr. Richard R. Tweed, the retiring directors.

Mr. A. J. Milne, managing director, seconded the motion, which was unanimously agreed to.

The auditors, Messrs. Turquand, Youngs & Co., were re-appointed, and a vote of thanks to the chairman, directors and staff in Baku concluded the proceedings.

EUROPEAN OILFIELDS CORPORATION, LTD.

THE COMPANY'S POSITION AND PROSPECTS.

THE second ordinary general meeting of the European Oilfields Corporation, Ltd., was held on Wednesday, at the Cannon Street Hotel, Cannon Street, E.C., Mr. Herbert Allen, the chairman, presiding.

The Secretary, Mr. John Clark, F.C.I.S., having read the notice convening the meeting and the report of the auditors,

The Chairman moved the adoption of the report. In doing so he said: The first features to arrest attention on a cursory glance at the balance-sheet now before you are the cash balances and other liquid assets. In the previous accounts the cash stood at £30,297, and you will naturally like to know how the difference of £25,924, as well as the half-year's profit of £26,030, is accounted for, at the same time that we have received on bills £2,254, for calls on shares £2,587, and have taken out of stocks £1,630, a total of £62,728. Well, we have spent on the properties £16,965, which, of course, was the object for which capital was raised. Next we have reduced the trade liabilities by £18,730, bringing them down to a very reasonable figure for an undertaking like this, and at £42,222 they are less than half what they were when the company was reconstructed, and only about three-fifths of what they were less than three years ago. At the present moment they are below the figure shown in the balance-sheet, but, naturally, they are liable to variation from time to time. Next, we have added to our investments £9,083, to loans £3,371, and to sundry debtors £7,950. We applied £2,325 to the purchase of profit-sharing notes, in accordance with the terms and conditions of issue, and for that sum effected the redemption of 18,467 notes of 5s. each, at an average price of little more than 2s. 6d. per note. These several disbursements amounted to a total of £58,424, and left us with the sum of £4,374 shown in the balance-sheet. Of course a heavy cash balance gives a pretty appearance to the accounts, but it is not necessarily an unmixed blessing, for it earns no profit. It is much better for us to have our money in the business than in the bank. It does not follow, however, because our cash balance is £25,000 less, that our liquid resources are lower by that amount. Such assets as temporary investments, short loans, and sundry debtors, all of which have increased during the half-year, are pretty much the equivalent of cash. In any event we are not likely to be hampered for want of cash in completing the capital work now in hand. The next item of importance in the balance-sheet is the reserve fund of £50,000. This, of course, is not a reserve fund in the strictest sense of the term; that is to say, it is not a cash reserve invested outside the company's business. It is a fund built up out of undistributed profits, which are put back into the business in the shape of renewals or capital expenditure, and can be used at any time to reduce the book value of the properties by transferring it to the other side of the account. You might say: Why not at once debit profit and loss account periodically with a certain sum for depreciation? Well, the course we adopt has been found to be the better one in practice. It is not always advantageous to reduce the book value of a company's properties, but so long as we have a nominal reserve fund on the other side we can do so at any moment should that course be considered expedient.

The only other balance-sheet entry to which I will refer at present is that of investments, £26,562. Part of this consists of moneys temporarily invested in oil securities, instead of its being deposited at the bank, until wanted for our own business. These investments are all readily saleable, and at the present time would realise more than they cost us. Then we have an interest in two producing properties on the Midway Oilfield of California. Early in the year these properties were shut down, in common with many others, in consequence of the struggle between the Standard Oil and other great purchasing and distributing agencies. In June, however, satisfactory arrangements were made with the Independent Producers' Agency for the sale of our oil for a period of years, and full work on the properties was thereupon resumed. It was found that the wells had not suffered by the stoppage of work, and the output was equal to what it had been before the closing down. We have just received one of our periodical payments of interest on the capital involved, and, so far as can be seen, we ought now to have a good return on our investment until such time as we think fit to realise it. Then there is our interest in the Romany-Zabrat Oilfields, Limited, about which Mr. Barnett spoke very fully at the statutory meeting of that company a few months ago. You were all furnished at the time with a report of the proceedings at that meeting, and, consequently, are well acquainted with the position and prospects of the undertaking, in which we are jointly and equally interested with the Baku Russian and the Russian Petroleum Companies. The total area of the Romany-Zabrat properties is about 12 acres. They are held on very easy terms as to royalties, obligatory boring, and so forth, and they give scope for the sinking of a considerable number of wells. One well is already down to oil, the second well within a few sagues of it, and the company is just starting a third well. In this joint venture we are believed to have an asset of much promise. Respecting paragraph 10 of the report, I should like to say that, in obtaining an extension of the lease of plot 94, Zabrat, for nine years from 1918, we not only gain time to further prove this territory and sink a number of wells, but safeguard our own freehold plot No. 93 adjoining. Too much

importance cannot be attached to this, as, owing to the strong water-bed known to exist in this district, the possibility of flooding is one which has to be carefully guarded against.

Paragraph 7 of the report deals with the working of our properties at Baku in the half-year under review and in the corresponding previous half-year. The best feature of this statement lies in the fact that, although the gross production is 17,000 poods lower, the deliveries to customers are up 122,000 poods, or over 5 per cent., owing to our having used 139,000 poods less for fuel. This 139,000 poods of oil represents a sum of about £5,000, or at the rate of nearly £10,000 a year, and still further economies are expected by the managers when our new power system has been fully installed. The quantity of drilling done during the half-year was 239 sagues (1,673 feet), in comparison with 892 sagues (6,244 feet) in the corresponding period, when we were busy sinking new wells. This explains the small capital expenditure of £15,265 shown in the present accounts, by comparison with the £53,981 figuring in the previous balance-sheet. The average price realised for the oil delivered to customers was 33½ copecs per pood (42s. 7d. per ton), in comparison with 26½ copecs in the corresponding period. Since April there has been a continuous rise in the market price of oil, and should anything like the present high price of 46 copecs be maintained, the company's accounts for the current year must benefit materially. Under the contract now running we receive a minimum price of 30 copecs, plus half the difference between 30 copecs and the official market price for each month. At the time it was made this contract was one of the most favourable ever effected, and it may yet prove very advantageous to the company. It has still fourteen months to run. Another satisfactory feature of the comparative table given in paragraph 7 is that the margin of profit is 11½ copecs per pood, as against 8 copecs in the corresponding period. Perhaps I should explain that the apparent increase in the cost of production, from 18½ to 21½ copecs per pood, is due to the rise in the market price of crude. That price governs not only the royalty payable in respect of several of the company's plots, but also the rate payable for electric energy, as well as the cost of oil fuel used for those wells which are still baled by steam power. Apart from these influences, which are, of course, beyond the control of the board, I think I am correct in saying that the cost of production has rather diminished than increased. We must, however, I fear, look for some increase in our wages bill in the future. Seeing the present remunerative price of oil, it is, perhaps, only natural that the workmen should desire to participate in the prosperity of the industry, and, provided their demands are reasonable, nothing can be said against the movement.

It is no use our offering an opinion as to the likelihood of these high prices holding for any length of time; no living man either here or in Baku, can do so safely. The present price is a perfectly legitimate one, based on the laws of supply and demand, and wholly free from manipulation. Wood and coal in Russia, which between them are used as fuel to ten or a dozen times the extent of oil, are equally scarce and equally dear, though the coal supply (both native and imported) has increased enormously, whilst the output of oil remains stationary. It may interest you to know that fuel oil is cheaper in Russia, even at present prices, than in any other great oil-producing country in the world. The Moscow district, Russia's great industrial centre, which is continually vacillating between coal and oil, in the first quarter of this year doubled its consumption of coal, but its purchases of oil were not reduced; that is because of the tremendous trade activity, and the consequent demand for fuel at present prevailing in Moscow and every other part of the Tsar's dominions. The economy of oil as a means of obtaining power for industrial purposes is such, and is now so universally recognised, that the commodity will hold its own at almost any price. And it is not for fuel oil only that the world's demand is ever on the increase. I think I may say it is generally recognised that no immediate expansion of Russia's oil output can be expected except in the Baku district, and whether that takes place or not depends almost wholly on the attitude of the Russian Government, which owns the best of the unexploited lands. One may almost say that it rests with the Russian Government whether oil is cheap or dear. With prohibitive royalties on the crude product there is little encouragement to capitalists to open up the remaining plots in the old Baku district, and from those at present under exploitation it is idle to expect any such increased production as will bring down prices. Despite all the recent activity in drilling new wells on old fields, the production has been barely maintained for the last year or two. Almost every company in Baku of which I have any knowledge possesses lands there which it would readily exploit but for the oppressive demands of the Government. *Propos* of Russian Government methods, we mention in our report that the company has not yet obtained confirmation by the Council of State of the recommendation made by the Baku Inter-Ministerial Commission awarding the company boring rights on about 5½ acres, at present held with surface rights only. The latest news is that the confirmation is not expected before the autumn. For my own part, I shall expect it when we get it.

When we met in December last I told you that our managers were anticipating an output of about 120,000 poods per week by

the end of January. When that time came the production was little better than 100,000 poods, and there or thereabouts it has remained ever since. I need not trouble you with the various reasons and theories that have since been advanced to the board for this disappointing drop; it would take hours to do so. The only consolation to the directors is that they emphatically declined to endorse these estimates, though that cannot be expected to console the shareholders. Perhaps the reduction is best explained by the managers having expected too much from the first oil sands in the new wells. Insufficient allowance appears to have been made for the draining of those sands by earlier wells, and it is questionable whether they should not at the outset have taken the wells down to the depths originally intended, instead of being tempted by the high price of oil to stop and bale them so near the surface. The upshot of it all is that, with oil higher than ever, six of the new wells have got to be stopped for deepening. The work is actually proceeding at the present time on four of them, viz.: Nos. 113 and 116 on plot 84s; No. 120 on plot 13s; and No. 125 on plot 19. Deepening has been ordered by the board, and will in due course be taken in hand, of well No. 117 on plot 84s, and No. 121 on plot 169. These are six of the new wells drilled by the present company. In addition to this, we have two of the older wells now in process of being deepened and four old wells, all on plot 169, undergoing repair. Altogether, therefore, we have a fair amount of work in hand, from which we are looking for a recovery in the production. By taking the wells in hand gradually, instead of stopping them all simultaneously, we shall disturb the output as little as possible. I ought to add that on plots 169 and 84s oil sources are known to exist in 195 sages, 200-208 sages, 225-228 sages, and 240-245 sages. On plot 13s it is known that there are rich oil sands at 200-214 sages and 224-228 sages. Generally speaking, therefore, the wells which I have just mentioned have got to be deepened by from 40 to 60 sages (that is, 280 to 420 feet).

To change the subject. Many shareholders I know like to hear a word occasionally about the oil share market, as distinguished from the market in the commodity itself. Dismissing all the nonsense that is written about so-called "booms," it is noticeable that in markets otherwise generally depressed the quotations for oil shares—and particularly the low-priced issues—have of late been fairly well maintained. For a long while they dwindled steadily, in common with all other securities, good and bad, and there is no particular reason why one should expect oil shares to move contrary to the general trend of prices. It may interest you to know, briefly, what has been the course of the oil share market since what was called the boom, in 1910. Taking four leading companies (all dividend-payers), the collective price of one share

in each in April, 1910, was £18. 19s. 9d., or an average of 94s. 11d. each. At the present time those four shares are worth £13. 18s. 9d., or 69s. 8d. each. That is a big depreciation for oil shares of the first standing. Dealing now with 70 other shares which have weathered the intervening storm, I find that the collective value which in April, 1910, was £67. 3s. 9d., or an average of 19s. 4d. each, at the present time is only £11. 14s. 11d., or an average of 3s. 4d. each. And this is without allowing for those concerns which have reconstructed, liquidated, or disappeared altogether. Never before was there such a demand for proved and promising oil lands, and certainly, so far as the prospects of the industry are influenced by high prices for oil and oil products, they could not very well be more promising than they are. I confess to some feeling of disappointment that we should be meeting to-day without declaring a dividend, but it must be obvious from what we tell you in our report, amplified by all I have just said, that we should not have been wise in straining our finances for that purpose at this stage of the company's career. There has in the past been too much of that sort of thing in the oil world, with disastrous results subsequently. Although I was intentionally guarded in my language at the last meeting, I certainly had strong reasons, based on the assurances of our managers, for hoping that we should now be declaring our maiden dividend. But the dictates of prudence must be heeded, and the dividend deferred, though, I hope, not for long. Gentlemen, I now beg to move: "That the directors' report and balance-sheet and accounts for the period ended March 31st (o. s.) (April 13th, 1913), as submitted to this meeting, be, and the same are, approved and adopted."

Mr. Arthur H. Wright seconded the motion, which was carried unanimously.

On the proposition of Mr. Alfred H. Cooper, seconded by Mr. Taunton, Messrs. Price, Waterhouse & Co. were reappointed auditors.

An extraordinary general meeting of the company was then held at which a resolution was passed, on the motion of the Chairman, seconded by Mr. R. Barnett, altering the articles of association in order to meet the requirements of the Stock Exchange Committee in connection with the granting of a quotation for the company's shares.

Mr. Cooper, in proposing a vote of thanks to the chairman and directors, said he was a little disappointed at not getting a dividend; but after the explanation given by the chairman he thought the policy of the board was a sound one. They had the right man in the right place, and had reason to look forward to the future with confidence.

The vote was unanimously accorded, and the proceedings then terminated.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.

COMPREHENSIVE REVIEW OF THE COMPANY'S POSITION BY MR. HERBERT ALLEN.

ON Thursday afternoon the fourth ordinary general meeting of the Baku Russian Petroleum Company (1909), Ltd., was held at the Cannon Street Hotel, E.C., Mr. Herbert Allen (chairman of the company) presiding.

The Secretary (Mr. J. W. Creasser, F.C.I.S.) read the notice convening the meeting and the report of the auditors.

The Chairman, in moving the adoption of the report and statement of accounts, said: The report before you touches on many topics, and, in conjunction with the balance sheet, sets out very fully the position and prospects of the company. Although, for reasons already stated, we are debarred from giving you a profit and loss or trading account for 1912, the figures which we quote from the accounts of the late administration should enable you to gauge pretty accurately the results of working for that and the preceding year. The next time we meet—which should be in about eight months' time—you will, I hope, have detailed audited accounts for the first full year's working of our properties since they came under the direct control of the company, and, subject to what I may say hereafter, they should be of a very satisfactory nature. Sometimes we have lamented that we were so long in recovering possession of the business, but I am not at all sure, looking at the matter from the widest standpoint, that the delay has been altogether disadvantageous to our future prospects. It is a very wide question. During the last year or two of the creditors' administration we exercised—thanks to the power of money—a not inconsiderable say in the management, and the business on the whole comes into our hands in very good shape, at an excellent time as regards the price of oil, and, all things considered, with a very good production. The finances of the company were never before as sound as they are at the present moment; they could not very well be better, and, with over £160,000 in cash and realisable assets, our resources are equal to any demand that is likely to be made upon them. I need not dwell long upon the balance-sheet itself, which is very simple and explicit. On the debtor side we have the balance of the Government loan of £50,000 advanced to the old company to enable it to regain some of the damage done to the properties during the disturbances in 1905 and 1906, which the Government made no attempt to quell until after the mischief had been done. At the lowest computation this damage amounted to £150,000, and we ought properly to have received that sum as compensation from the Government. Instead of this we got a paltry

sum of £50,000, and that only by way of loan, which is being liquidated by monthly instalments. Then, for royalties and taxes, there was owing to the Government at the end of last year £55,833. Of this sum £30,000 represents the unpaid balance of royalties that fell into arrear at the period I have just referred to. It was originally more, but is being gradually reduced. The remaining £25,000 is for current royalties and taxes, and is about the normal amount accrued at the end of each half-year. The amount of trade debts, standing at £21,430, is very low for an undertaking of this magnitude, the reason being that we now always pay cash when we can get a discount by doing so.

On the credit side of the balance-sheet you see the properties standing at £599,210. The £26,526 added since the previous account represents the final batch of settlements with Russian creditors. Plant, machinery, materials, and stores at £181,506, at first sight, look a little heavy, but we must remember that our operations are spread over many plots, in all parts of the district. The remaining items in the account, consisting of over £160,000 of liquid assets, speak for themselves. This much may, at all events, be said of our report and accounts, that, however little scope they may afford for comparison with previous periods, they certainly enable you to gauge the present position and future prospects of the undertaking. We have every reason to believe that the plant and machinery are in good all-round condition; that with the improvements now in hand, our methods of working will be well up to the highest Baku standard; that we have an efficient staff; and that the properties, largely written down in the process of reconstruction, are valued in the balance-sheet on a conservative basis, and capable of giving a fair return on the capital employed. The footnote in the balance-sheet relating to profit-sharing certificates—which were issued as part of the consideration payable to certain security holders in the old company—has given rise to a few inquiries, and in future issues of the accounts we will make this rather more explicit. You may have noticed that the report is silent on the subject of development work, by which I mean progress in the boring of new wells, the deepening and repair of others, and the adoption of fuel-saving methods. As a matter of fact, however, we have a vast amount of work in hand, of one sort and another, on which a heavy expenditure has been incurred, partly out of capital and partly out of the profits made in the last year or two of the late administration. The full benefits of this work

and expenditure have yet to be felt. As regards new wells, I mentioned at our last meeting that we could not expect the whole series to be completed before 1914, but two or three of them look like coming into production this year. We have at present seven new wells in course of boring, of which two are of exceptional interest, namely No. 27 on plot 36, and No. 28 on plot 56 at Bibi-Eibat. Well No. 27 is a deep well, 359 sagues down, with a 12-in. column, and is now finished as regards boring. It has yet, however, to be cleared of the cementing tubes, and this is giving us some difficulty. This, however, merely causes delay, and should not affect the prospects of the well, which are considered by our managers to be very hopeful. Well No. 28 is another deep well, 331 sagues down, with an 18-in. column. We are in the oil sand, the cementation is completed, and when the cementing tubes are raised the well will be brought into exploitation. Then we have well No. 30, on plot 56 Bibi-Eibat, started this year with the intention of going down to the 400-sagene source, which on this field is very rich and practically untapped. The boring so far has been very satisfactory, and the well at present is 120 sagues down, with a 34-in. column, which should enable us to get to 400 sagues with a large diameter casing. The other four new wells are at 198 sagues, 233 sagues, 207 sagues, and 194 sagues respectively, and boring is proceeding satisfactorily in each case. Of the wells which are being deepened, No. 19, on plot 36 Bibi-Eibat, is of special importance, and our managers have great hopes of its giving us a substantial addition to our production. It is now down 317 sagues (2,219 ft.) in rich oil sands, and may be in production in a few weeks' time.

With all this work in hand, and much of it in an advanced stage, our managers express the opinion that we should be easily able to improve upon our present production. You may remember that early in the present year we had some rather bad luck, and our weekly output fell to 105,000 poods. Since then it has, with slight fluctuations, steadily improved, and we are now getting nearly 130,000 poods per week. At the last meeting I mentioned that the managers hoped this year to put 500,000 poods on to the output of 1912, and Mr. Tropp, in one of his latest letters, says there is still a chance of that hope being realised, although they were unexpectedly delayed in the preliminary work of the new drilling and repairing programme. Personally, I think Mr. Tropp is a little over-sanguine; but I shall be only too happy should events prove me in the wrong. It would, perhaps, be as well for us to forget some of the sanguine forecasts of production that were indulged in three or four years ago; for it is now quite clear that they are not likely to be realised unless by some unusual stroke of luck. People engaged in the business of oil production at Baku are wiser now than they were a few years ago, and it is generally recognised that one has to be exceptionally fortunate to more than maintain one's output from any plot in the old exploited areas. On previous occasions I have mentioned that the consumption of fuel is one of the most important questions we have to deal with. By repairing some of our wells, and reducing the enormous weight of water which we now have to raise, we hope eventually to need much less power. Almost equally important is the cheapening of the power required, and this we hope to effect by substituting (as we are now doing) gas, oil, and electric motors in place of steam boilers fed by crude oil. Formerly, when the price was round about 15 copecs, steam was raised by burning crude oil, and little heed was paid to more economical methods of raising power. Latterly, however, the position has changed, and every effort is made to reduce the fuel bill. We have working at present 14 crude oil engines, averaging 45 horse-power each, three gas motors of from 115 to 135 horse-power each (running on natural gas escaping from the wells), and four electric motors. All these, except two gas motors working air compressors, are on our Balakhany plots. In addition we have purchased, and are just completing, the installation of twenty electric motors of 80 to 100 horse-power each at Bibi-Eybat, and in a short time all our Bibi-Eybat properties will be run on electric power. In the year 1912, when the properties were in the hands of the Russian Administration, the fuel used was 2,074,000 poods, or 5,680 poods per day. This has been gradually reduced since January 1st of this year, and according to the last returns received from Baku, our fuel bill is down to 5,040 poods per day—a present economy of 640 poods. When we consider that every 100 poods of oil now is worth nearly £5, we see that in the course of a year this economy will amount to a large sum. Nor have we reached the end of our efforts, for steam will be gradually supplanted at Balakhany, and in a short time we expect the electric power company to supply us with power for our Bibi-Eybat wells which will then use no oil at all—a further large economy being obtained thereby. On our two Bibi-Eybat plots we are now using eleven steam boilers, for which 2,250 poods (over £120 worth) of oil per day is required. I have been asked to explain the apparent increase in the cost of production between 1911 and 1912, and I am very pleased to be able to do so, although the board of this company takes no responsibility for the figures given in paragraph 6 of the report, which are merely taken from the accounts of the late administration. What happens is that the different companies debit their profit and loss accounts with the oil they use as fuel at the market price of the oil. It is just the same with royalties; the Government does not take them in kind, but makes us pay the market value for the proportion of our output due under the terms of the lease. So long, therefore, as oil is on the up grade it automatically gives the expenses, also the appearance—and it is only an appearance—of increase.

If oil continues to rise as it is now doing, the next accounts will show a still further increase in what is termed the cost per pood. It is, on the whole, a very misleading term, because, whether oil is cheap or dear, the actual expenses of working a plot are not

affected. Wages and material are much the same in either circumstances; but mention of wages reminds me to tell you that workmen in the BAKU district are beginning to put forward demands for a rise, and this, I think, will have to be conceded. Had the men been in England the demands would have been made long ago. The royalty question, referred to in paragraph 11 of the report, is supposed to be still engaging the attention of the authorities. After seeing the life ground out of their properties for years for the benefit of the Government, producers were led to believe that the burden of royalties was to be lightened at last. But while the Government has been procrastinating the price of oil has gone up, and, in consequence, the promised reduction is, to all intents and purposes, shelved. Happily, this company is not altogether at the mercy of the Government, some of its best plots being freehold, and others leased from private owners on reasonable terms. This reminds me that a shareholder asks, in a letter received the other day, whether the Government has the right to increase the royalties whenever it chooses. Fortunately for us, it has not; otherwise I am quite sure that the royalties would speedily be 100 per cent. of the production. The Russian Government may safely be trusted to take all that it is entitled to, and more besides, if possible. The increase in the price of naphtha, which set in at the beginning of 1911, naturally resulted in a considerable increase in boring, and this has continued with greater intensity up to the present time. In the Baku district 252 wells were started in 1912, against 181 wells in 1911, and the result of the boring in 1911 is seen in the fact that 227 wells were finished in 1912, as against 135 in 1911. One might have expected this additional number of new wells to result in a considerable increase in production, but such was not the case. In spite of the heavy boring we find that the old Baku fields, namely, Bibi-Eibat, Romany, Balakhany, Sabunchi—wherein our producing plots are situated—gave in 1912 only 419,000,000 poods, against 425,000,000 poods in 1911—a reduction of 6,000,000 poods. The only district where any material increase occurred was Surakhany, an outlying district of Baku, which gave, in 1912, 31,000,000 poods, against 20,000,000 poods in 1911. It may interest you to know that the plots now being explored by the Romany-Zabrat Oilfields, Limited, in which we hold a one-third interest, are situated on the border of Romany and Surakhany, and from indications shown by the first well at 188 sagues, it appears that we are in those same Surakhany formations which show the only substantially increased production in Russia in recent years. The other oilfields of Russia—Grosny, Maikop, Emba, Binagadi, Cheleken, etc.—were practically stationary, giving but 116,000,000 poods, against 114,000,000 poods in 1911. The aggregate production of oil throughout the Russian Empire last year was 566,000,000 poods (9,129,000 tons), against 599,000,000 poods (9,661,000 tons) in the previous year. From this it follows that the productivity of the old wells is being reduced at a greater speed than the new wells are able to keep pace with. Until the Russian Government makes up its mind to lease off part of the enormous quantity of oil-bearing lands in its possession—some of them in the best parts of the old Baku field—on fair terms, and also to put many of its present leases on a fair basis, the production is hardly likely to increase.

Considerable attention has been attracted by a new field about four miles south-east of the town of Grosny, and if the hopes entertained of this territory are only partly realised Grosny may figure much more prominently as an oil producer in the near future. The new field has been very favourably reported upon by leading geologists and oil engineers, and is believed to be highly petroliferous and capable of being worked very cheaply. One well put down by local enterprise has been flowing large quantities of good oil for some months past from a depth of 1,600 ft. Among the English companies which have acquired lands in this district are the North Caucasian, the Schibaieff, and the Bibi-Eibat. The only thing that may militate against the rapid development of this field is the difficulty experienced in getting delivery of machinery, tubes, and cement, owing to the great activity of trade throughout the country. Boring is proceeding with great rapidity, but it must not be forgotten that boring work on a new field is necessarily somewhat slow. Since we issued our report the price of crude oil at Baku has risen to 47 copecs per pood, or about 59s. 6d per ton, and in some quarters it is being talked up to a rouble (100 copecs) per pood. Be that as it may, it cannot be said that the present price is at all unreasonable, and it certainly compares very favourably with the price of crude on the other great oilfields of the world.

As you have already been told, this company has no forward contracts running for the sale of its oil, and we are in consequence deriving the maximum benefit from the prevailing high price. For the month of July, as a matter of fact, we have sold our Balakhany output at $\frac{1}{2}$ copec, above the official bourse price, so great is the local demand, while we are among the very few producers of any importance having any free oil for sale. From 80 per cent. to 90 per cent. of the other great firms have sold. For the moment this freedom from forward sales is all in our favour; but the time may come when, on a falling market, the advantage will be the other way. There is much to be said, from the producers' standpoint, both for and against the practice of selling forward; it must in turn tell both for and against both buyer and seller. On a rising market the seller gets the worst of the deal; on a falling market he gets the best of it. Such contracts have, at all events, one advantage for both parties. They ensure a certain market for the seller and a certain supply for the buyer for a given period and at a stated price, and each can shape his finances and his plans accordingly. All that the producer has to be careful of is never to sell forward in times of abnormally low prices or at a price which does not leave him a margin over

working expenses. In paragraphs 7 and 8 we say a few words about current profits. We have only received approximate accounts from Baku up to the end of April: but we know what our sales realised in May and June, and we also know roughly what our standing expenses are. This enables us to tell you that for the first half of the current year we made about £50,000—over rather than under. But, as you know, our production in the early part of the year was very low, and the present market price of oil is considerably above the average of the first six months. If we merely succeed in maintaining our gross production at the present level—and we have every right, judging by what our managers tell us, to expect more than that—we can deliver to buyers about 400,000 poods per month, after deducting fuel and royalties. At forty copecs per pood that would give us an income of 160,000 roubles, or £17,000, while our working expenses are about £6,000 per month. It may, consequently, be inferred that a production of 130,000 poods per week, with oil at forty copecs or over, will give us a gross profit £120,000 to £130,000 per annum. On capital account we are spending, roughly, from £4,000 to £5,000 per month, apart from anything we may allocate to the purchase of new lands. In addition to the profit derived from the lands which we ourselves are working, there are the rents and royalties receivable from lands which we have leased off. These, we tell you in our report, should come to not less than £25,000; as a matter of fact, if the present price of oil is maintained they should come to considerably more than that.

In this connection I should like to bring out a point which I find has been generally overlooked. It is the fashion to speak of this company's production as if it were stationary, but surely we are entitled, for purposes of comparison, to add to the production from the properties in hand the production from those plots which we have leased off because we could not adequately exploit them ourselves. If we do this we shall find that our gross production for 1912, instead of being under 7,000,000 poods, was very nearly 9,500,000 poods. That is a point to be borne in mind by those who merely study our own returns. In reality, we have effected a handsome increase in our production, while most of the properties situated in the same areas have either stood still or shown a declining tendency. Our properties in the Baku district are so numerous, and in some cases so extensive, that it would be impossible for this company to exploit them all itself: but as it is undesirable, especially in these days of high prices, that they should be idle, we have adopted the policy of leasing off some of the plots to firms who are short of land, but who have the means of development at their disposal. Where our holdings are exceptionally large, as at Bina, we are negotiating for the sale outright of certain plots which are not in our immediate programme of boring. We hope in this way to have our lands proved at other people's expense, as boring done on one-half of a 4-dessiatine plot should prove the value of the whole. With part of the cash thus obtained we are taking up small plots of land in what are considered more favourable positions, and adjacent to plots upon which boring is going on. In this way also we expect that the result of our neighbours' work will be an invaluable guide to us in starting work on our own account. It must not be assumed because Baku is suffering from some of the drawbacks experienced on nearly all highly-exploited fields that it is by any means yet a back number. On the contrary, it is still, with one exception, the greatest oilfield of the world; it gives Russia seven-eighths of her entire output, and Russia is second only to the United States, which possesses many great oilfields. The value of Baku's production of crude oil this year should be well over £20,000,000 sterling, and the industry, with all its drawbacks, was never more profitable than it is to-day. The areas at present exploited may steadily decline, but greater tracts in the district are still waiting to be opened up, and, with reasonable encouragement from the Government, the field might rise to a higher level of importance than ever. Those companies which can only maintain their present output should enjoy a considerable measure of prosperity: if they are lucky enough to increase it, while the rest of the field is standing still, they must inevitably have a very prosperous time before them. Our own technical advisers still have faith in an increased production from the exploited areas in our own possession, and are taking steps to obtain the solution by adopting the latest and most approved methods of production. But, whatever the production, shareholders should remember that a small output with high prices is better for us than a large output with low prices; that 100 poods at 40 copecs is worth 200 poods at 20 copecs; and that our working expenses are the same whether the price of oil is 20 copecs or whether it is 40 copecs. You should, therefore, study the weekly returns of production only in conjunction with the price. Furthermore, oil shareholders should never forget that they cannot for long expect a large production and high prices simultaneously.

Following my usual practice, I should here like to take the opportunity of answering a few questions that have been addressed to the office by country shareholders. Some of them I have already dealt with in the course of my remarks. One shareholder, quoting from an evening newspaper, asserts that "the output does not increase satisfactorily, while the cost of production is on the up grade." Far from this being the case, the output, at 9,500,000 poods, shows a splendid increase, whilst the cost of production—apart from influences which are beyond the control of the board, such as royalties and the market price of oil fuel—is falling rather than rising. The next shareholder asks if the debenture interest is paid up to date. The answer is in the affirmative, and I might add that not only is the interest regularly paid, but we have already reduced the outstanding amount by drawings or purchases, from £128,980 to £109,755. Then, naturally, we have had a few inquiries on the subject of a dividend—three, as a matter of fact, out

of a body of nearly 6,000 shareholders—one shareholder even asking why we have not already paid one. The answer is that, as we have only been in possession of the business for a few months, and shall have to wait for many months yet before we receive the audited accounts from Baku for the first financial year, it is somewhat premature to consider the question. In the next six months we may have fires, floods, earthquakes, riots, war, plague and pestilence, and sundry other luxuries that might conceivably swallow up the first half-year's profits. Where, then, would the poor directors be, after paying an unearned dividend? Altogether, however, the shareholders are very intelligent, and, appreciating the long series of difficulties with which the directors have had to struggle, they are very indulgent, for which the directors are duly grateful and encouraged in their endeavours to bring the undertaking to a successful issue. We allude in our report to the reorganisation of the local staff at Baku, which, I believe, to be now on a thoroughly sound working basis.

When everything is settled down I believe the management of our properties will compare favourably with that of any similar undertaking in the district. I find we omitted to mention that Mr. Richard Tweed, who—with the permission of the Russian Petroleum Company, Limited—represented us in Baku and did so much to protect the company's interest during the later years of the creditors' administration there, has, since his return to England, consented to act in a consultative capacity to the board. Mr. Tweed, like myself, is in almost daily attendance at the company's office, and his assistance is of great service to the board, and to myself in particular, as the chairman. It is of the greatest possible advantage to concerns like this to have at hand here someone who is familiar with every local detail of the business at Baku. Well, I cannot, in conclusion, do better than repeat what we say in our report. Notwithstanding the drawbacks attaching to our business—such as water and fuel difficulties, depletion of gas, heavy royalties, and the increased cost of drilling—and granted that we are spared a recrudescence of the old labour troubles—we feel that the confidence expressed on former occasions in the future of the undertaking should soon prove justified.

Mr. W. Watson Rutherford, M.P. (deputy-chairman), in seconding the motion, said he did not think there was a single point of interest in the present position and prospects of the company and of the industry generally in Russia with which the chairman had not dealt. He felt sure that when shareholders saw the chairman's statement in print, and were able to study its details, they would be able to understand a great deal more about the petroleum industry, and a great deal more about the ramifications of the company with which they were associated than they had at present. It was the practice for the chairman of a great many companies at the meeting of shareholders year by year to tell them as little as he possibly could; but Mr. Allen had adopted entirely different tactics. He invariably went into great detail, and gave his reasons for each of the conclusions placed before them. There was just one word he would like to say about the present position. When he joined the board the price of crude oil at Baku was under 20 copecs per pood: but now, as they had heard from the chairman, it was 47 copecs per pood, and he put this great increase in the price down to the great industrial development of Russia, particularly of South Russia, during the last seven years. He did not think there was any part of the world which had made such great strides in industrial development as that particular region. Factories were springing up in every direction, and the result was a very greatly increased demand for fuel, which was the greatest element in the increase of price and the strongest evidence that that increase had come to stay, and was not merely a temporary phase. As had already been mentioned, the company had made no forward sales, and had they made them at any time during the last eighteen months or two years they would have got less money for their product. If the price of oil were, by any possibility, during the next month to commence to go down, it was conceivable that some shareholders might next year blame the board for having made forward sales. On the whole, however, he thought the board were of opinion that the price was owing to natural causes; that it was not a fictitious price, and that there would be no very great fall in the present price. Suggestions had been made in some quarters that the petroleum industry might, to some extent, interfere with coal, and some of the newspapers, not quite so well informed on the subject as they were on most subjects, had looked upon it as being rather an unpatriotic idea that coal sales were going to be in some way diminished by petroleum. This, however, would not be the case. The total production of petroleum in the whole world to-day was only about 50,000,000 tons a year, of which about 30,000,000 only were available for fuel, which was less than 2 per cent. of the consumption of coal, and the increase in coal consumption was more than 2 per cent. every year. Therefore, they would see that if the total amount of petroleum was less than the annual increase in coal, it was perfectly ridiculous to think that petroleum was going to do the coal industry any harm whatever.

The motion was carried unanimously.

Mr. Rutherford, in moving the re-election of Mr. Herbert Allen, remarked that all the members of the board had seen the property of the company at Baku and the operations going on there, and Mr. Allen himself had gone over them several times.

Mr. Richard Barnett seconded the motion, which was unanimously adopted, and, on the proposition of Mr. Edward Shepherd, seconded by Mr. Robertson, Messrs. Turquand, Youngs & Co. were reappointed auditors.

A vote of thanks to the chairman, directors and staff closed the proceedings.

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

August 8th, 1913.

The official prices of Refined Petroleum are unaltered as follows:—Russian, 8 $\frac{3}{4}$ d.; American, 8 $\frac{1}{2}$ d.; American Water White, 9 $\frac{1}{2}$ d.; Roumanian, 8d.; Galician, 8 $\frac{1}{4}$ d.

LUBRICATING OILS

are unaltered, quotations being for:—

No. 1 Russian, spot and forward, £12. 2s. 6d.
American pale, from £10. 7s. 6d.
American dark, from £12. 2s. 6d.
American filtered cylinder, from £14. 12s. 6d.

FUEL OIL.

77s. 6d. per ton, in bulk, ex wharf, represents the market price, and 80s. is being asked for grease-making oil.

MOTOR SPIRIT.

The price of the best quality retail in London is 1s. 9d. per gallon, and the second quality 1s. 7d.

TURPENTINE.

American Turpentine has been weak since our last report but is now stronger again and is quoted for spot, 28s.; September/December, 28s. 6d.; January/April, 29s. 6d.

LIVERPOOL.

August 8th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8 $\frac{3}{4}$ d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, July 13th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
" Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, August 7th.

Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, August 7th.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, August 6th.

The petroleum prices have remained firm. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA. BAKU, August 6th.

The petroleum market is without change. Crude oil is quoted at 45 $\frac{1}{2}$ –46 copecs per pood spot. Mazout, 42 $\frac{1}{2}$ –43 copecs. Kerosene, 53–54 copecs.

ROUMANIA. August 6th.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Bushtenari	Francs.
" " " Moreni	...	7.25–7.40
" " " Tzintea	...	6.20–6.80
" " " Policiori	...	4.25–4.75
" " " Bana	...	4.50
" " " Bana	...	8.50–9.00
Paraffin	...	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–30.00
" sp. gr. 0.715–0.720, f.o.b.	...	25.00–26.00
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	16.00–18.00
Residuals, f.o.b. Constanza	...	6.00
Gas Oil	...	8.00

AUSTRIA. August 6th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 33 kronen at Oderberg. Benzine, 710/720, 45 kronen; benzine, 740/50, 34 kronen; 770/80, 22 kronen at Oderberg. Gas oil, 8.00 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, E.C., report under date August 8th as follows:—

There is little business doing, all the mills throughout South Wales being closed this week. Prices remain at about the same level as last week as under:—

1c	18 $\frac{3}{4}$ × 14	124 sheets 110 lbs.	13/6 per box.
1c	20 × 10	225 " 156 "	19/6 "

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES *for* OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

From Lloyd's

AUGUST 7TH, 1913.

THE "REVIEW" SHIPPING LIST.

The following abbreviations are used in this table:—L. Left. Pd. Passed. Arr. Arrived. Sp. Spoken. T. Trading. Cl. Cleared
The Anglo-American Co.'s vessels marked thus (*). The Anglo-Saxon Co.'s tankers thus (Δ). Messrs. Lane & Macandrew's thus (□).

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
ADORNA	Antofagasta.	San Francisco	L. July 25	DELAWARE*	Barrow	Novorossisk..	Cl. Constanti- nople July 31
AMERICAN	New York ...	Antwerp.....	Arr. August 5	DELAWARE SUN	Philadelphia.	Sabine.....	L. July 24
APPALACHEE*	Liverpool & Norfolk, Va.	Sabine	L. Norfolk, Va., July 28	(American Schooner)			
APSCHERON	Naples.....	Batoum	L. August 2	DERBENT	Tyne	Batoum	Pd. Dungeness July 29
ARAL	Rotterdam ..	Tyne	Arr. August 1	DEUTSCHLAND	Rotterdam ..	Philadelphia.	Arr. August 4
ARAS	Swinemunde	Tyne	Arr. July 28. In port July 29	DIAMANT	New York ...	Gothenberg	L. July 30
ARCA	Soesoe.....	Singapore ...	L. August 1	EL LOBO	San Francisco	Pisagua	L. July 25
ARTHUR VON GWINNER	—	—	Launched Eins- warden Dec. 24. Since complet'g	EL SEGUNDO	San Francisco	Vancouver ...	Arr. July 18
ASHTABULA*	Lobitos	San Francisco	Arr. July 24	EL TORO	Tyne ...	Kustendje ...	Arr. July 28
ASTRAKHAN	Philadelphia.	Dunkirk.....	L. August 2	ELAX Δ	Balek Pappan	Shanghai ...	Arr. August 1
AUREOLE	Hamburg ...	Norfolk, Va.	Arr. July 31	ELISE MARIE	Gothenburg & Tyne	Baton Rouge	Pd. Cape Wrath August 3
AZOV	Talara	Callao	L. Payta July 10	EMANUEL NOBEL...	Hamburg ...	Batoum	Arr. Plymouth August 5
BAKU STANDARD...	Sabine.....	Hamburg ...	L. August 2	ENERGIE	New Orleans	Barcelona ...	Cl. July 23
BALAKANI □	Port Arthur..	Dublin & Manchester	L. Newport News July 24	ERIVAN	Hamburg ...	Kustendje ...	Arr. Malta July 16
BATOUM	Galveston ...	Port Arthur	Arr. August 5	ESTURIA	Rangoon.....	Bombay	Arr. July 30
BAYONNE	Granatello ...	Batoum	Pd. Dardanelles August 5	EUPLECTELA Δ	Tyne	Kustendje ...	L. Malta August 6
BEACON LIGHT	—	Thames Haven	Arr. July 31	EXCELSIOR	New York ...	Hamburg ...	Arr. August 4
BLOOMFIELD	Port Arthur.	Amsterdam ..	L. July 18	F. A. TAMPLIN	Sabine.....	Southampton & London	Pd. Scilly August 7
BORJOM	Batoum	Alexandria..	Cl. Constanti- nople July 20	FRANCE MARIE.....	Tampico	Port Arthur..	Arr. July 25
BRILLIANT (Br. Bq.)	Philadelphia.	Hiogo	Pd. Anjer June 29	(Belgian Ship)			
BRILLIANT	Philadelphia.	Copenhagen	Pd. Butt of Lewis August 2	FUMI MARU	Macassar ...	Tarakan	L. July 8
BRITISH SUN	Antwerp.....	Newport News	139 miles S.E. of Brow Hd. August 4	GEESTEMUNDE	Tampa	Baltimore ...	Arr. August 1
BROADMAYNE	New York ...	Calais	L. July 24	GENESSE*	Sunderland ..	New York ...	Arr. July 24
BUFFALO	San Francisco	Hangkow ...	L. July 27	GEORGIAN PRINCE	Galveston ...	—	L. July 30
BULLMOUTH Δ	Singapore ...	Shanghai ...	L. August 2	GOLDMOUTH Δ	Singapore ...	—	Pd. Sagres August 4
BULYSESSES Δ	Batoum	Singapore ...	L. Colombo August 1	GUTHEIL	Tuxpan	—	Sunk after colli- sion Baton Rouge April 28
BURGERMEISTER PETERSEN	Copenhagen	Baton Rouge	Pd. Sand Key August 4	H. C. HENRY	Amsterdam ..	Seattle	Arr. Monte Video ab't August 6
C. A. CANFIELD* ..	Tampico	Sabine	Arr. July 28	HAGEN	Hamburg ...	Kiel	Arr. July 25
CALCUTTA (Br. Bq.)..	San Francisco	Yokohama ...	L. July 5	HAINAUT (Barge) ...	—	—	T. between Tampico and Aransas Pass
CAMILLO	Chinwantas	Balek Pappan	Arr. August 4	HARPORT	Callao	San Francisco	Arr. August 6
CAPTAIN A. F. LUCAS	—	—	T. United States, Pacific	HARRY	Tampa	Baltimore ...	Pd. Cape Henry July 24
CARDIUM Δ	Siagapore ...	Gibraltar ...	Pd. Perim August 1	LUCKENBACH	Jacksonville.	Newport News	Arr. July 19
CARPATHIAN □	Kustendje ...	Hull	Pd. Gibraltar August 5	HARRY WADSWORTH*	Baton Rouge	Copenhagen.	L. Norfolk, Va., July 24
CAUCASIAN □	Grangemouth	Hull	Arr. July 31. In port August 6 for Galveston	HERA	New York ...	Messina	L. August 3
CHARLOIS	New York ...	Rotterdam ...	Arr. June 28. In port August 5	HERBERT G. WYLIE	New York ...	Tampico	Pd. Sand Key July 23
CHATHAM	New York ...	Tampico	L. July 26	HERMIONE	London	Port Arthur .	Pd. Lizard July 21
CHESTER	Antwerp.....	New York ...	Off the Wight August 6	HESPERUS	Tuxpan	Baton Rouge	Arr. July 16
CHEYENNE	Barrow	Philadelphia.	Pd. Iniahtrahull August 3	HORLEY	Rio Janeiro...	Trinidad.....	L. July 23
CIRCISSIAN PRINCE	—	—	T. W.C. South America	HOTHAM NEWTON	New York ..	Alicante & Barcelona	Pd. Gibraltar July 31
CITY OF EVERETT	New York ...	Tampico	Off Cape Hatter- as July 16	HYRCANIA	Batoum	London	Pd. Dardanelles August 4
CLAM Δ	Batoum	Avonmouth ..	L. August 2	IMPEROYAL	St. John, N.B.	Quebec	Arr. June 3
CLEARFIELD	New York ...	Tuxpan	L. July 25	IMPOCO	New York ...	Konigsberg ..	L. July 27
CLIO	Baton Rouge	Swinemunde.	Pd. Butt of Lewis August 4	IOANNIS COUTZIS...	—	—	On Govt. Service
COMANCHEE	Manchester ..	Sabine	Arr. July 30	IROQUOIS* (Towing Barge Navahoe)	London	Tyne	Arr. July 28. In port Aug. 5
CONCH Δ	Abadan	Suez	Pd. Perim August 4	J. B. AUG. KESSLER	Shanghai ...	Balek Pappan	Arr. August 1
CONRAD MOHR	New Orleans.	Christiania...	L. Norfolk, Va., July 24	JULES HENRY	Marseilles ...	Rotterdam ...	Arr. May 24. In port August 5
CORDELIA	Taltal	Los Angeles.	Arr. July 9	JULIUS RUTGERS...	Leer	Konigsberg ..	Arr. August 2
COWRIE Δ	Rangoon.....	Seattle ...	L. Hong Kong July 22	JUNO	Palembang ...	Miri.	L. July 21
CURRIER	New Orleans	Havana	Cl. July 28	KANAKUK	San Francisco	Hong Kong	L. June 20
CUYAHOGA*	Sabine & Norfolk, Va.	Bombay	Arr. ab't July 28	KASBEK	Vigo	New York ...	Arr. August 6
CYMBELINE	Kustendje ...	Rouen	Arr. August 4	KIYO MARU	Callao	Hong Kong..	L. Yokohama July 5
CZAR NICOLAI II. ..	Batoum	Hamburg ...	L. August 3	KOMETA	Barrow	Kustendje ...	L. August 4.
DAGHESTAN	Batoum	Manchester ..	Arr. Liverpool August 6	KREMLIN (late Snowflake)	Batoum	Barcelona ...	Arr. August 3
DANUBIAN □	London	Port Arthur.	Pd. Sand Key August 5	KURA	Sabine & Norfolk, Va..	Dantzig	L. Norfolk, Va., July 29
DAYLIGHT (Br. Bq.)	Philadelphia.	Hiogo	Arr. May 1	LA CAMPINE	Tyne	Philadelphia.	Pd. Cape Wrath July 25

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
LA FLANDRE	Antwerp.....	Philadelphia.	Pd. Lizard July 22	ROCK LIGHT □	Amsterdam...	Naples	Pd. Sagres August 3
LA HESBAYE	Antwerp.....	Philadelphia.	Arr. August 5	ROMANY Δ	Rotterdam ...	Vladivostock.	L. Plymouth August 6
LACKAWANNA*	London	Philadelphia.	Arr. July 30	ROSALIND	Port Arthur.	Christiania...	Pd. Dunnet Hd. August
LE COQ □	New York ...	Vigo & Santander	L. July 23	ROTTERDAM	New York ...	Rotterdam ..	Pd. Dover August 7
LEUTSCH	Kustendje ...	Alexandria...	Cl. Constanti- nople July 31	ROUMANIAN □	London	Sabine.....	Pd. Sand Key August 5
LUCELLUM	Tyne	Port Arthur..	Off the Wight August 2	ROUMANIAN PRINCE	Baltimore ...	Tampico	Pd. Sand Key July 25
LUCERNA	Kustendje ...	Algiers	Pd. Dardanelles July 31	RUSSIAN PRINCE... ..	Galveston ...	Tampico	L. July 25
LUCIGEN	Portsmouth..	—	Pd. Lizard August 6	SALAHADJI Δ	Abadan	Sabang	L. July 30
LUCILINE □	Rouen	Tyne	Arr. August 7	SAMOSET (late Cadillac)	Sabine & Norfolk	Bombay	Arr. Port Said August 6
LUMEN	Novorossisk..	Dunkirk.....	Pd. Ushant August 5	SAN ANTONIO.....	—	—	T. Mexican Coast
LUTETIAN □	Rouen	Novorossisk..	Pd. Constanti- nople August 5	SAN BERNARDO ...	—	—	T. Mexican Coast
LUX □	Barcelona ...	New York ...	Pd. Gibraltar August 7	SAN CRISTOBAL	—	—	T. Mexican Coast
MAKKAVEI	Kustendje ...	Alexandria...	Arr. August 6	SAN DUNSTANO.....	London.....	Philadelphia.	Pd. Lizard August 4
MANNHEIM	Hamburg ...	New York ...	Pd. Prawle Pt. July 26	SAN EDUARDO	P. Mexico ...	Manchester..	L. August 2
MARGARETHA	Philadelphia.	Avonmouth.	Arr. August 4. In port August 5	SAN FRATERNO.....	Thames Haven	Tyne	Arr. August 1. In port August 5
METEOR.....	Vladivostock	Batoum	Arr. Suez August 6	SAN GREGORIO	Tyne	Mexico	Pd. Dover July 30
MEXICAN PRINCE..	Balek Pappan	Singapore ...	Arr. August 1	SAN RICARDO	Tuxpan	Philadelphia.	L. July 31
MIJDRECHT	Immingham.	Kustendje ...	Pd. Gibraltar August 4	SAN SILVESTRE.....	Philadelphia.	Avonmouth..	Arr. August 5
MINA BREA.....	San Francisco	Payta ..	Arr. ab't August 1	SANTA RITA	Kalahului ...	San Francisco	L. July 7
MIRA	Emden	New York ...	Pd. Lizard July 25	SARANAC* (now named Satanta)	Calcutta	New York ...	L. June 10
MITRA	Batoum	Colombo	Arr. ab't August 1	SAXOLEINE	Tyne	Philadelphia	L. July 27
MOHAWK*	Mexico	New York ...	Pd. Lizard July 25	SEBASTIAN	—	—	Launched Dun- dee April 24, since complet'g
MUREX Δ	Sydney	Balek Pappan	Pd. Perim July 30	SEQUOYA (late Tamarac)	San Francisco	Calcutta	L. July 16
NARRAGANSETT ...	New York ...	London	Arr. June 25. In port July 26	SERVIAN □	Port Arthur..	Amsterdam...	Arr. August 4. In port August 5
NATICA	Rangoon.....	Port Said ...	Ashore ab't July 18, 6 S., 119 E.	SHWEDAGON	Bombay	Rangoon.....	L. July 15
NEKO	Hamburg ...	Leith	L. July 27	SIOUX.....	Tuxpan	New York ...	Arr. July 28
NELSON	New York ...	Cienfuegos...	Arr. July 6. In port August 5.	SIRIUS (Ger.) ...	Rotterdam...	Baton Rouge	L. July 31
			825 miles S. of Scotland Light	SOCONY	Tampico.....	New York ...	Arr. July 28
			July 24	STANDARD	Philadelphia.	Tampico	Pd. Delaware B'water July 25
NEW YORK*	New York ...	Rotterdam ...	L. August 1	STROMBUS Δ	Port Arthur..	Sheerness ...	Pd. Lizard August 6
NIAGARA	San Francisco	Hankow	L. July 30	SULTAN VAN LANGKAT Δ	Balek Pappan	Colombo	Arr. August 1
NORMAN BRIDGE...	Tampico.....	New York ...	Arr. August 1	SUN	Philadelphia.	Sabine.....	24 miles S. of Delaware Cape July 24
OBERON.....	Los Angeles	Tocapilla ...	L. July 15	SUNLIGHT (Br. Bq.)	Macoris ..	—	L. July 28
OCEAN	Amsterdam...	New York ...	Pd. Lizard July 25	SURAM	Immingham	New Orleans.	Pd. Sand Key August 4
OILFIELD	Novorossisk..	Schulau	Pd. Sagres August 5	SUWANEE*	Liverpool ...	Kustendje ...	Pd. Dardanelles August 4
ORIFLAMME □	Kustendje ...	Havre.....	Arr. August 2	TARAKAN	—	—	T. E. Indies
OSAGE	Baton Rouge	Rotterdam ...	L. Newport News July 26	TECUMSOH	Tampico	New York ...	Arr. July 28
OTTAWA*	London	Kustendje ...	Pd. Dardanelles August 1	TELENE Δ	Cardiff	Malta	Pd. Barry Island July 31
OURAL	Batoum & Dunkirk	Antwerp.....	Arr. July 24. In port August 5	TEREK	Philadelphia.	Avonmouth & London	Pd. Fastnet August 7
PATELLA Δ	Rotterdam...	Tyne	Arr. July 10. In port July 29	TEXAS	Antwerp.....	Port Arthur..	L. July 21
PAUL PAIX.....	Hull	Kustendje ...	Pd. Gibraltar August 2	TIFLIS	Batoum ...	Rouen.....	L. August 2
PAULA	Philadelphia.	Hamburg ...	L. July 31	TONAWANDA*	Liverpool ...	New York ...	90 miles W. of Brow Hd. Aug. 1
PAWNEE	—	—	Launched Tyne July 30	TRINCULO.....	San Francisco	Vancouver...	Arr. July 30
PECTAN.....	Antofagasta..	Port San Luis	Arr. July 21	TRINIDADIAN.....	New York ...	Tuxpan	Pd. Sand Key July 27
PENNOIL	Rotterdam ...	Port Arthur..	Pd. Lizard August 1	TRITON	Baton Rouge & Newport News	Hamburg ...	Arr. August 2. In port August 5
PETROLEINE	Cette	New York ...	Pd. Gibraltar July 26	TROCAS Δ	Saitozaki ...	Tarakan.....	L. July 30
PHOEBUS	Taltal	San Francisco	L. July 19	TURBO	Singapore ...	Gibraltar ...	Pd. Perim August 3
PINNA □	Cardiff.....	Port Arthur.	Pd. Fastnet July 26	UNCAS	New York ...	Calcutta	Arr. Port Said August 4
POTOMAC*	London	Selzaete	Pd. Southend August 6	VEDRA	Port Arthur..	La Pallice & Rouen	L. La Pallice August 5
POWHATAN (late Tuscarora)	San Francisco	Muroran.....	560 miles from San Francisco July 30	VILLE DE DIEPPE (Norwegian Barque)	New York ...	La Pallice ...	L. July 9
PROMETHEUS.....	New Orleans.	Tampico	L. Port Eads July 21	VITRUVIA.....	—	—	Launched Clyde July 12
PRUDENTIA.....	Norfolk, Va.	New York ...	Arr. July 24. In port July 26	VOLUTE Δ	Tsingtau ...	Hong Kong..	L. July 27
PURELIGHT.....	Tyne	Philadelphia.	Pd. Dunnet Hd. July 30	VOLCANUS	Singapore ...	Soesoe.....	L. August 1
QUEVILLY (Fr. Bq.)	New York ...	Rouen.....	L. July 10	WABASHA.....	San Francisco	Taku	Arr. ab't July 26
RADIOLEINE II. ...	Cette	Marseilles ...	L. August 5	WANETA (lt. Impoco)	Tampico	Aransas Pass	L. July 26
RANELLA	Singapore ...	Gibraltar ...	L. Colombo July 28	WASHINGTON	Sabine & Norfolk, Va..	Bombay ..	Arr. about August 4
REDOVA (Br. Bq.)	Seville	New York ...	Arr. July 26	WEEHAWKEN	Amsterdam .	Batoum	Pd. Dungeness August 3
RION	Kustendje ...	Bizerta	Pd. Dardanelles July 2	WILLIAM F. HERRIN	Astoria	Port San Luis	L. July 21
				WILLKOMMEN	Oxelosund ...	Tyne	Arr. August 6
				WINNEBAGO	Itosaki	San Francisco	Arr. August 1

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IMPORTS OF PETROLEUM PRODUCTS INTO THE UNITED KINGDOM.

Specially prepared for this Journal by the Customs House.

FOR THE WEEK ENDED AUGUST 5TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
July. LONDON—				
29	Port Authority ...	Lub.	4,500	Hamburg
29	" ...	"	240	Antwerp
29	Bramwell Fern & Co. ...	"	2,450	Philadel.
30	Vacuum Oil Co. ...	Lub. Oil and Gr.	18,590	New York
30	Mercantile Lighterage Co. ...	Lub.	23,040	"
30	Lubricating & Fuel Oils Co. ...	"	8,200	"
30	Anglo-American Oil Co. ...	"	24,000	"
31	Ragosine & Co. ...	"	4,890	Philadel.
31	Vacuum Oil Co. ...	"	1,420	"
31	Trinidad Lake Asphalt Co. ...	Lub. Resid	7,690	"
31	Mercantile Lighterage Co. ...	Lub.	32,000	"
31	Anglo-American Oil Co. ...	"	82,240	"
31	" ...	Gas	1,196,520	Sabine
1/8	J. Spurling ...	Lub. Gr.	240	New York
1/8	T. S. Harris & Co. ...	Lub.	2,400	Stettin
1/8	Leach & Co. ...	"	80	Ghent
1/8	P. Brancher ...	Lub. Gr.	840	Antwerp
1/8	Port Authority ...	Lub.	240	Hamburg
2/8	British and Foreign Wharf ...	Lub. Oil and Gr.	170	Antwerp
LIVERPOOL—				
29	Liverpool Warehousing Co. ...	Lub.	120	Hamburg
29	D. Currie & Co. ...	Lub. Oil and Gr.	1,100	"
29	Burnaby & Chantrell ...	Lub. Gr.	40	"
29	Crew, Levick & Co. ...	Lub.	4,030	"
29	American Export Co. ...	"	200	Boston
29	W. Gibson & Sons ...	Lamp	2,050	"
29	Anglo-American Oil Co. ...	Lub.	20,000	Baltimore
29	Burnaby & Chantrell ...	M. Colza	2,430	"
29	" ...	Lub. Gr.	440	"
29	Meade-King, Robinson & Co. ...	Lub.	26,000	"
29	A. Hopps & Sons ...	"	13,040	"
29	" ...	M. Colza	16,120	"
29	J. Light & Son ...	Lub.	2,680	"
30	Burnaby & Chantrell ...	Lub. Gr.	3,300	N. Orleans
31	Vacuum Oil Co. ...	Lub.	1,030	New York
1/8	" ...	Lub. Gr.	3,110	"
1/8	Meade-King, Robinson & Co. ...	Lub.	3,000	N. Orleans
1/8	Petroleum Products Co. ...	"	160	Hamburg
BARROW—				
30	Asiatic Petroleum Co. ...	Benzine	625,000	Kustendje
BRISTOL—				
30	Pickford's ...	Lub.	950	Antwerp
31	Anglo-Bosphorus Oil Co. ...	"	1,990	"
1/8	" ...	"	1,610	New York
1/8	C. Hill & Sons ...	"	8,760	"
1/8	Ford & Canning ...	"	2,500	"
1/8	W. G. Clarke ...	Lub. Gr.	40	Antwerp
CARDIFF—				
1/8	A. Payne & Co. ...	Lub.	120	Hamburg
GLOUCESTER—				
30	Bristol Steam Navig. Co. ...	"	800	"
GOOLE—				
1/8	Goole Steamship Co. ...	"	60	"
GRIMSBY—				
29	J. Sutcliffe & Son ...	"	350	"
29	" ...	"	650	Antwerp
HARWICH—				
28	Great Eastern Railway ...	"	160	"
29	" ...	"	80	"
31	" ...	"	240	"
HULL—				
30	T. Wilson, Sons & Co. ...	"	19,280	New York
31	Wilson's & N. E. Railway ...	"	2,960	Hamburg
31	" ...	"	960	Antwerp

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
July. MANCHESTER—				
29	Pickford's ...	Lub.	230	Hamburg
29	Meade-King, Robinson & Co. ...	"	6,240	"
29	" ...	"	23,680	Philadel.
30	Worthington & Boler ...	"	4,370	"
30	McLiners, Ltd. ...	"	1,360	"
1/8	Liverpool Storage Co. ...	"	1,280	"
1/8	" ...	M. Colza	1,780	"
1/8	Crew, Levick & Co. ...	"	2,440	"
1/8	" ...	Lub.	4,720	"
1/8	Bramwell Fern & Co. ...	"	28,280	"
1/8	Worthington & Boler ...	Turps. Sub.	2,400	"
2/8	D. Currie & Co. ...	Lub.	230	Hamburg
NEWCASTLE—				
26	Tyne-Tees Steamship Co. ...	"	1,000	Antwerp
29	" ...	"	4,800	Hamburg
1/8	P. H. Matthiessen & Co. ...	"	100	Bergen
SWANSEA—				
1/8	Burgess & Co. ...	Lub. Gr.	310	Hamburg
DUNDEE—				
31	D. Alexander & Sons ...	Lub.	2,560	"
GLASGOW—				
29	Anchor Line ...	"	46,800	New York
29	" ...	M. Colza	10,000	"
29	Clyde Shipping Co. ...	Lub.	1,230	Antwerp
LEITH—				
31	Jas. Currie & Co. ...	"	500	Hamburg
2/8	G. V. Turnbull & Co. ...	"	25,000	Philadel.
2/8	" ...	M. Colza	4,000	"
BELFAST—				
29	J. C. Pinkerton & Co. ...	Lub. Oil and Gr.	880	Hamburg
1/8	" ...	Lub.	150	"
CORK—				
1/8	P. Murphy & Co. ...	Lub. Oil and Gr.	240	"
			2,349,690	
Deduct—				
LONDON—				
16/5	J. W. Cook & Co. ...	Lub.	11,100	Philadel.
17/6	Lubricating & Fuel Oils Co. ...	"	7,610	Batoum
24/6	Anglo-American Oil Co. ...	Gas	18,700	Sabine
3/7	British Petroleum Co. ...	Lamp	1,530	Port Arthur
			2,310,750	

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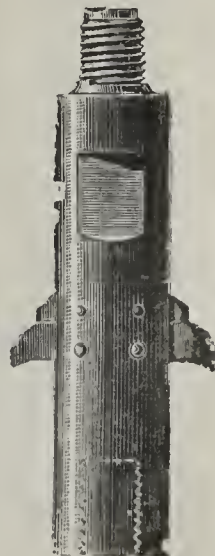
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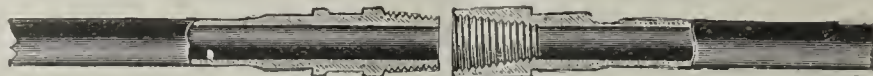
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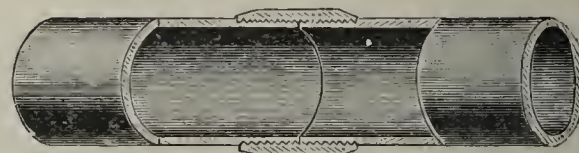
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The Petroleum Review.

Founded by PAUL DVORKOVITZ.

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No. 578.

THE PETROLEUM REVIEW.

The ANNUAL SUBSCRIPTION for both English and Foreign readers is 26s., including Postage. Single Copies may be had at the offices at 6d.

The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

Soaring Crude Oil Quotations.

THE quotations for crude oil continue steadily to advance until at the time of writing, Baku crude oil stands at the unprecedented figure of nearly 49 copecs per pood, and in the American markets Oklahoma quotations have reached the unheard of listed price of about one dollar per barrel. In both Roumania and Galicia the same high level of prices is existing, and one naturally asks the question: When will the present upward tendency reach its zenith? The answer is not easy, for the quotations demanded for the crude oil are but a reflection of the general international situation. In a hundred and one ways, the consumption of petroleum products has advanced and expanded to such a degree that with even the present great oil output of the world fears are entertained that this supply will be unavailing to meet the enormous demand which now exists. Hence we find advancing prices, and to those who expect an early reduction, we would console them by the reflection that they are bound to be disappointed. The great oil-producing interests of the world are scouring every corner in an endeavour to find new centres for future production, and it is certain that until the drill opens up prolific fields so far unknown, crude oil prices will never materially drop from their prevailing quotations.

The Promise of Benzol.

THE Petrol Substitutes Joint Committee, which has for some time been considering how far the use of motor spirit can be replaced in internal combustion engines by benzol, has now issued its report upon the question. The report is, of course, particularly interesting, inasmuch as it treats with the use of benzol at length, and thus the motorist will find a wealth of information as to how best to satisfactorily run on benzol in preference to motor spirit. In our opinion, however, the

report, though of great interest, leaves much to be desired, and the motorist, who having already tried benzol, peruses the report in an attempt to find information as to a continuity of supplies at reasonable prices, will be sorely disappointed. Whatever the supporters of benzol may believe, the whole question narrows itself down to one of supply and demand. When motor spirit—or, as we are used to call it, benzine—found no great outlet, it was a drug on the market, and consequently its price was cheap and quite out of proportion to its real value. But once a demand is created and great supplies are necessary, then the law of supply and demand comes in, and prices go up. Nor is this unnatural, for the same thing is bound to occur in the case of benzol, which at the moment, though only utilised to a very limited extent for internal combustion engines, even stands at only a few pence per gallon cheaper than petrol.

Roumanian Petroleum Products for Germany.

IN the REVIEW of a few issues ago we referred to the formation of the Bavarian Lloyd Shipping Company and the fact that one of its objects was to deal with the transport of Roumanian products along the Don to the north. As we then pointed out, the establishment of such a system of transport into the German markets would seriously jeopardise the monopoly enjoyed by the American interests in the German markets. The American interests, however, are determined not to let the grass grow under their feet, and therefore, simultaneously with the coming into being of the new organisation, they are displaying great activity in regard to the purchase of Roumanian enterprises, the obvious desire being that if they lose in one direction they shall gain in another. To-day we understand the American interests are securing extensive petroliferous territory in the Roumanian fields in an endeavour to gain control over a large part of the Roumanian crude oil production. The new shipping company, however, will not only open up a new route for Roumanian petroleum to Germany, but the transport of petroleum products to England and France will thereby be greatly facilitated.

The Galician Industry.

IN spite of what may be described as steady activity throughout the developed petroliferous regions of Galicia, the output of crude oil continues to decline. For instance, for the first six months of the present year the total output was 443,830 tons as compared with a total of 536,930 tons for the corresponding half of 1912. The decline is therefore at the substantial rate of 18 per cent. During the same period the export of petroleum products has also declined but in a

greater ratio, for when the export for the present year is compared with the corresponding period of 1912, a decrease of not less than 33 per cent. is shown. It is probable, however, that ere long, the crude oil output will show a turn for the better since operators are now turning their serious attention to the exploitation of lands long recognised as being highly petroliferous yet so far not commercially developed.

SUGGESTED OIL PIPELINE FOR ADMIRALTY PURPOSES.

THE REVIEW understands that estimates will shortly be published for laying a pipeline between Grimsby and Selby for Admiralty liquid fuel needs. The proposed pipeline, when laid down, will be nearly fifty miles in length, and will be used for supplying the naval base which is contemplated on the Humber, the storages being erected inland in order to secure safety from attack.

WORKERS' STRIKE ON THE BAKU FIELDS.

English Interests Affected.

DURING the past few days a workers' strike has broken out in the Baku fields, several thousand employees having struck for increased pay. The strikers, however, are peaceful and seem to regard the event more in a holiday mood than anything else. They base their contention for increased pay mainly on the ground that while the price of the crude product has materially advanced of late their wages remain at the same low level as formerly. Their demand is considered by many operating companies as perfectly legitimate, and in the majority of cases has been acceded. The workers of the Russian Petroleum Company struck last week, but the strike was short-lived, for the company immediately granted the men's demand, work being immediately resumed. The production of the European Oilfields Corporation has been cut to one-half last week, owing to these troubles, but it is expected they will be over in a few days.

A NEW DESCRIPTIVE CATALOGUE OF THE STAR DRILLING MACHINERY.

THE Star Drilling Machine Company of Akron, Ohio, have recently issued a new catalogue of their drilling machines, bits, and drilling and fishing tools. Like the majority of American catalogues, the "Star" is very elaborately turned out, the coloured frontispiece being of an exceptionally attractive nature. The "Star" machines are too well known to need lengthy comment here. The company's portable drilling machine has been developed from the regular stationary oil-country outfit, and to-day contains all the essential features of the same, it being the result of over a quarter of a century's experience in the drilling of oil and water wells. The "Star" machines can be used in connection with gas engines, rotary and jetting attachments, but the manufacturers find that the percussion drilling machines are the most practical for all purposes, and these are fully described and illustrated in the new catalogue we refer to. The "Star" representatives in this country are Messrs. Gillespie & Co., Leadenhall Buildings, London, E.C., from whom copies of the catalogue will be gladly furnished.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended August 9th was 100,000 poods.

SPIES PETROLEUM COMPANY, LTD.—Production, week ended August 10th, including 2,710 poods from ambars, was 246,655 poods, or about 3,978 tons. The total production for the year, from Jan. 14th to August 10th, was 8,482,155 poods, or about 136,809 tons. The total production for the corresponding period last year was 9,869,080 poods, or about 159,179 tons. Price of crude oil at Baku, 49 copecs per pood.

THE MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended August 9th was 14,201 poods (229 tons).

THE EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended August 10th was 44,900 poods, or 724 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended August 9th was 130,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended August 9th was 32,036 poods (517 tons).

THE MAIKOP SPIES COMPANY, LTD.—The production of this company for the week ended August 3rd was 10,201 poods, or about 165 tons.

MAIKOP NEW PRODUCERS, LTD.—Production for week ended August 9th was 9,050 poods, or 146 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended August 10th was 15,028 poods, or 243 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended August 9th, 115,320 poods or 1,860 tons.

THE NORTH CAUCASIAN OIL FIELDS, LTD.—Production for the week ended August 12th was 190,600 poods, or 3,074 tons. Corresponding period last year, 591 tons. Total production to date for this year, 36,660 tons, last year 16,541 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended August 10th was 72,867 poods, or 1,175 tons.

MAIKOP MIDLAND.—Production at Krinskaya for week ended August 9th was 7,260 poods.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended August 9th was 6,744 poods (108 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended August 9th was 1,950 poods (31 tons).

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THE OILFIELDS OF BURMA.

Their History and Development.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

Reprinted from
"Memoirs of the
Geological Survey
of India."

Volume XL, Part I.

(Continued from page 142.)

AN oil-sand crops out in the Aungban Yo, and one also just appears above the surface in the two branches of the Beme Chaung, the Khun-lmit-se Yo and Taungle Yo. Our knowledge of the oil-sands depends entirely upon the logs of the wells as recorded by the drillers. From these records several attempts have been made to correlate the strata encountered in the various bores, but with very poor success. In one or two cases the incongruity between two bores, which by some accident to the first, are only 10 ft. apart, must be imputed entirely to inaccuracy in the records, and there is no doubt that many other irregularities are due to the same cause, but, in the case of rich oil-sands, the depth of which is measured carefully with a steel tape, we ought to be able to correlate these if the horizons were sufficiently constant. This can sometimes be done approximately in local groups of wells, but evidence points to great variation in level and thickness of the beds and any serial scheme for identifying oil-sands can obviously be of local value only, even in the same oilfield. Oil-sands have been alluded to as the 400 ft. sand, the 700 ft. sand, the 1,000 ft. sand, etc., but even in small groups, after allowing for difference in levels between the well-heads and difference in position with regard to the anticlinal crest, there are many irregularities. For example, two wells, A and B, on the eastern flank of the anticline, are 400 ft. apart and 1,275 ft. deep. A contains 10 separate oil-sands each isolated above and below by impervious argillaceous beds; these sands range from 10 to 40 ft. in thickness and occur at the depths indicated in the diagram. B contains only four oil-sands, at depths shown; their thicknesses are respectively 150 ft., 25 ft., 55 ft., and 35 ft., and the first and third are mixed with clay. Such disagreement is very common even in much closer wells.

In the diagram on this page are examples of eight wells in the Twingon Reserve, all lying within 500 ft. of one another, in almost horizontal strata and showing the depths below the plateau level at which gas, oil or water occurs. The group of wells is a random one. In wells G and H we may take it for granted

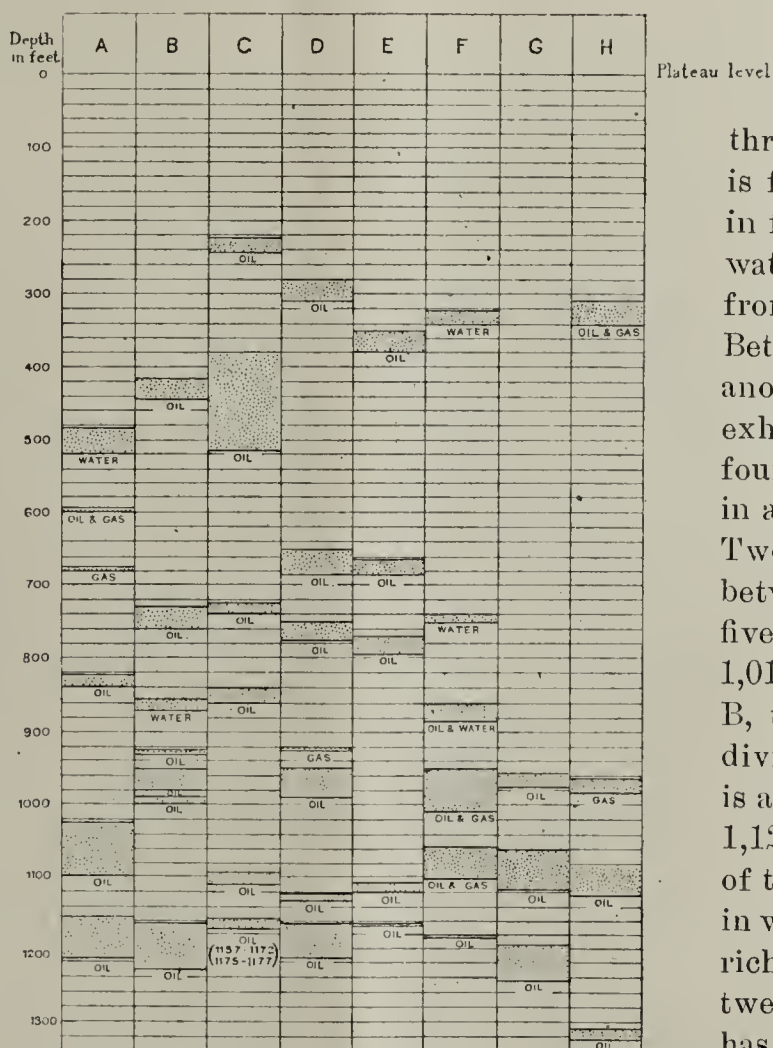
that some of the shallow oil and water sands have been omitted by the driller as being in his estimation comparatively not worth mentioning. In three wells, D, E, and H, we have a shallow oil-sand at about 300 ft.; the name Burmese oil-sand has been applied to this sand, or to any sand between 250 and 400 ft., since it is between these depths that Twinzas have recently obtained the bulk of their oil. In well F, which is further from the crest than D, E, and H, the oil has

evidently been replaced by water at this horizon.

Between 650 and 685 ft. another oil-sand occurs in three wells, while a deeper sand is found between 725 and 790 ft. in four other wells, and contains water in well F, which is further from the crest than the others. Between 825 and 885 ft. is another sand showing signs of exhaustion or flooding; oil is found in two wells, oil and water in another, and water in a fourth. Two wells contain oil or gas between 920 and 930 ft., and five oil or gas between 950 and 1,010 feet; in one of the latter, B, this sand has split into two, divided by 10 ft. of clay. There is a rich sand between 1,025 and 1,125 ft., and the lowest portions of this are apparently represented in wells D and E. A well-marked rich oil-sand extends from between 1,155 and 1,246 ft.; this has been separated by 3 ft. of clay into two sands in well C.

Finally one well has tapped a sand at 1,310 ft. It is obviously absurd to number serially such sands, first oil-sand, second oil-sand, etc., and to refer to them as the 1,000 foot sand, etc., may be useful from a commercial point of view, but as any such sand may not only acquire a greater depth elsewhere by dip, but may split up into smaller sands or unite with others, or change its horizon as a result of its lenticular form, no attempt will be made here to classify the oil-sands of Yenangyaung. The deepest sand as yet met with occurs at between 1,700 and 1,800 ft., but there is nothing to indicate that further supplies do not lie below this.

There appears to be more continuity among some of the richest sands, although thickness and horizon may vary considerably; anomalies in wells tapping these sands must be attributed to variation in porosity, or in some cases possibly to paraffination. The



conditions under which the Pegu beds of Upper Barma were laid down have been already deduced to be those of a shallow gulf, and the vagaries of the beds underground are entirely in accordance with this view. The petroliferous sands were probably old sand-banks, and if we imagine them repeated all over the gulf, uniting in places, causing cross-currents and thereby still further complicating their shape, we should expect to get an oil-sand, which would, it is true, be found at a more or less constant horizon when found at all, but whose shape would be highly complex, now thick, now thin, here forming a broad expansive flat, there sending out tongues of sand which might or might not anastomose with others, the whole rising and falling over the uneven ground on which it was laid down. Furthermore, to return to the gulf, the deposition of sand may have been locally interrupted by short intervening periods in which clay was laid down, or an unusually high part of a sand-bank might have escaped submergence and concealment beneath the clay, and become contiguous to a later sand-bank deposited upon the new gulf bottom. In the first case we should get in our field a number of thin separated oil-sands, corresponding as a whole to one vertically continuous oil-sand elsewhere, and in the second case, an unusually thick oil-sand consisting in reality of two vertically contiguous sands.

The above are characteristic features of the Yenangyaung oilfield. We have evidence of broad extensive oilpools such as that found at 1,000 or 1,100 ft. in North Twingon, and blocks 1 N and 2 N, and of narrower elongated pools such as that tapped by some wells in Aungban; we have numerous thin oil-sands separated by beds of clay or thick compound sands 280 ft. or more in thickness.

The rich oil-sands are independent of one another; they are separated often by thick masses of impervious clay or water-bearing strata, and the drainage of the upper sand has no effect upon the yield of the sand below. Two sands vertically close together may unite into one when traced laterally, but this does not interfere with the above general statement.

It has been suggested that the pressure in the wells which causes the oil to spout in such vast quantities must be due to gas, especially in view of its great variation. Medlicott and others seem to consider this to be a general rule, and Orton instances the shale gas wells of America as cases where the pressure, which sometimes rises to 200 lbs. to the square inch, must be due to the expansive power of the gas, since there is no associated water. In Burma there can be little doubt that the original primary cause is, or was, hydrostatic; the pressure exerted by the gas is but the equal and opposite reaction against this water-pressure (see below). The so-called "anticlinal theory" is very well supported by the occurrences of oil in Burma, although one or two exceptions have been reported. It may at least be taken as a fact that there is always a tendency for the oil to rise as high as it can, and this can only be due to the pressure of water behind it. Water has forced oil up into the highest parts of anticlines, the lighter hydrocarbons in each oil-sand occupying the points of maximum elevation, where these have not been exposed in any way. We should expect, therefore, to find the centre of the Yenangyaung dome occupied by gas alone, or by very gassy oil, and

the flanks of the fold by oil which becomes heavier the farther down we go in each oil-pool. Curiously enough the gas area of the Yenangyaung field lies considerably to the south of the richest oil-bearing tract, or what is in all probability the centre of the dome. The central parts of the Twingon Reserve and of Khodaung are filled with very gassy oil which spouts when tapped, sometimes to a considerable height; in one or two cases the well has yielded large volumes of gas at first, followed afterwards by the oil. Southwards, towards Beme, there is a decided decrease in yield until south of the Taungle Yo, practically no oil has been found at all. Contrary to expectations, however, large quantities of gas were obtained in two wells drilled in places where the strong pitch of the anticline occurs. The gas wells are marked on the map and are some 1,650 ft. apart. In the more southerly of them the pressure, according to the gauge, measured 500 lbs. to the square inch, but the pressure when the well was first opened is said to have been as much as 800 lbs. This is greater than the pressure in Ohio, where in the first wells it rose to over 540 lbs. per square inch; the Monroe Well in Pennsylvania registered 1,545 lbs. per square inch.

It has been seen that the Beme area is much cut up by mud veins, and I have suggested that these may indicate a former discharge of mud in the form of mud volcanoes. Mud has been met with in drilling here, and in one well rose 300 ft. up the casing. Mud volcanoes are always associated with, and, in fact, due to, gas, and are characteristic of the highest points of a fold. The dips close to the Pegu-Irrawadian boundary in the mud-vein area are as large as, if not slightly larger than, usual; they decrease rapidly towards the centre and the arch appears to be flattened somewhat asymmetrically. The present drop from Khodaung to Beme is very slight, and it will be seen from the map that there is hardly any narrowing of the inlier, Beme being much nearer the centre of the inlier than Twingon. But it is difficult to understand why gas should be found so far down the pitch of the crest as it is in the more southerly well which obtains its gas from a depth of over 2,300 ft., unless we assume that these gas-sands are independent of the oil-sands. The conclusion that there is no inter-communication between them is inevitable, and it seems probable that their independence may have been from the beginning, for some reason lighter hydrocarbons having been produced in this special area and shut off in lenticular patches of sand. We have seen that there is a slight difference in the rocks of the northern and southern halves of the inlier, the latter containing no marine fossil bands but one or two patches of broken or distorted fresh-water shells: the beds of the two areas probably dove-tail into one another. It is worthy of note that the main part of the Singu oilfields ends southwards in a gas field, but here there is no pitch of the anticline at all from the oil to the gas areas, and oil has quite recently been found again south of the gas.

But for the anomalous occurrence of gas, the relation of the density of the hydrocarbons to the structure is, generally speaking, a normal one. A careful study of some statistics of the specific gravities of oil from various wells in the field, kindly supplied to me by Mr. C. K. Finlay, of the Burma Oil Company, showed that in each separate oil horizon, where traceable from well to well, there is a general increase in specific gravity as we pass down the flanks of the anticline. There is a slight decrease, on the other hand, passing downwards from upper to lower horizons in the same well; this is also the case in the Galician oilfields. Its significance will be discussed later on.

(To be continued.)

THE TESTING OF BENZINES.

By Professors A. P. LIDOFF and G. W. PETROFF.

Translated from
"The - - -
Nefiannoie -
Diolo." - - -

WITH the development of the automobile, aviation and internal combustion engineering generally, benzine or petroleum distillate boiling over up to 150° C. has obtained an enormous practical importance and high value. The time is past when benzine was considered a waste of no value, and petroleum refiners are now paying as much, if not more, attention to this product than to illuminating oils. But at the same time there has not yet been fixed a standard for uniform sorts of benzines with fixed limits of boiling points of determined viscosity, flash points, etc., according to the uses for which benzines are intended.

Neiman, when in 1909 investigating six kinds of benzine of specific gravities, from 0.690 to 0.712, found their composition and properties to considerably vary one from another, and that only one of them of sp. gr. 92 of 0.690 has satisfied the conditions demanded from a benzine for automobilism and aviation, namely, distilling in proportion of 90 per cent. within 20° C. The other five had a wide range of boiling points, and were unfit for their proper use, as they represented mixtures of light and heavy distillates, and, of course, while in work on engines the light portions would first evaporate, leaving behind heavy portions unfit for smooth and effective work in internal combustion engines.

All benzines are composed of hydrocarbons, with 5, 6, 7 and 8 atoms of carbon, of the methane and naphthene as well as of isomere series. Considering that the properties of hydrocarbons with the same number of carbonic atoms but of various series, are quite different it is easy to understand how varied in their properties must be the mixtures of such hydrocarbons bearing the common collective name of benzines, especially so if we take into consideration the numerous isomeres, proved in and isolated from petroleum by various experiments (from Pennsylvanian oil by Chandler & Mobeny; from Baku oil by Markovnikoff, etc.)

Methane hydrocarbons entering into the composition of benzines obtained from American and Galician petroleum are:—

	Formula.	% of Carbon.	% of Hydrogen.	Boiling Point.
Pentane ...	C_5H_{12}	83.33	16.67	37° C.
Hexane ...	C_6H_{14}	83.72	16.28	69° C.
Heptane ...	C_7H_{16}	84.00	16.00	98° C.
Octane ...	C_8H_{18}	84.21	15.79	125° C.

The following isomeres with the above were found in petroleum: Isopentane, b.p. 27.9° C. (Young and Thomas); 30.4° C. (Zorne and Jones), in Pennsylvanian, Canadian, Californian, Baku, and Grosny petroleum. Of isohexanes there are known several. One, boiling at 58° C., was isolated by Markovnikoff and Askan from Baku petroleum, and by Den from Sumatra petroleum; another one, b.p. 62° C., by Lakhovitch from Galician oil; a third one, b.p. 64° C., by Zalozecki from Galician oil; and a fourth one, b.p. 49.5° C., by Markovnikoff from Roumanian petroleum. Of isoheptanes there are known three with b.p. 108.5° C., 119.5° C., and 124–125° C. As seen from the above, the boiling points of the isomere methane hydrocarbons are quite different from those of the normal methane series.

Similarly to the methane series, many isomeres to the hydrocarbons of the naphthene series were isolated from Baku, Grosny and Burma crude oils, and their boiling points vary from those of the normal ones considerably more than is the case in the methane series. Thus the normal cyclopentane boils at 52.5° C., while his three isolated isomeres boil at 72° C., 87.8° C., and 93° C.

On the other hand, specific gravities and viscosities inevitably increase with the increase of the number of carbonic atoms. Thus the viscosities at +20° C. of the following hydrocarbons are:—

Pentane ...	0.00232	Heptane ...	0.00410
Isopentane.	0.00246	Isoheptane.	0.00379
Hexane ...	0.00320	Octane ...	0.00538
Isohexane..	0.00300		

The specific gravity of a benzine is consequently in no way an indication of its composition. Thus Pennsylvanian benzines 0.695–0.705 boil and distil over within the same range of temperatures as Borneo benzines 0.705–0.715.

The presence in benzines of light volatile components makes them fire-dangerous, and also causes their composition to change when kept in hot hermetically-closed receptacles. The flash point of benzines with a considerable percentage of volatile components is very low, and even during the winter frosts their volatility and evaporation capacity is very high. According to Holde, the flash points are:—

B.p. ... 50–60° C. 60–78° C. 70–88° C. 80–100° C. 80–115° C. 100–115° C.
Flashp. —58° C. —45° C. —39° C. —22° C. —21° C. +10° C.

The most practical and safe receptacles for storing benzine are those of the Martin and Guneke system, in which benzine is kept under pressure of carbonic acid gas or nitrogene.

It would be very desirable to elaborate certain standards of benzine for various purposes:—

(1) Benzine for making air gas, with low boiling point.

(2) Benzine for cleaning and general uses, with low boiling point.

(3) Benzine for extraction for manufacturing purposes.

(4) Benzine for inner combustion engine used in automobilism and aviation.

(5) Benzine for stationary inner combustion engines.

(6) Benzine for special purposes in chemical industry.

It would be of the greatest importance to have a simple and quick method to approximately judge the chemical composition of benzines, and consequently their practical use for special purposes.

Unfortunately, the usual method of comparing kerosenes by means of their specific gravities and flash points cannot be applied to benzines, as their flash points are exceeding low and there is no apparatus possible to apply to their testing (at least in general practice), and the only accurate method left to us is the fractional distillation; this is safe and good—but only in the hands of an experienced chemist. For carrying out this test a naked flame must be avoided. The authors used the heat of an electric current passing through a conductor with some resistance. The distilling flask of a capacity of about 100 C. had inside a metal spiral wire through which a current of a tension of 110 volts was passed of an increasing power from $\frac{1}{2}$ to 3 ampères. Two hours were ample to carry out the distillation. A special apparatus has been devised by one of the authors, Mr. G. W. Petroff, and will be published as soon as the latter's rights are secured.

PETROLEUM IMPORTS INTO THE UNITED KINGDOM DURING JULY.

THE SHIPMENTS INTO VARIOUS PORTS.

THE various shipments of petroleum products into the U.K. ports during July are given in the following

table. The total imports for the month were 38,370,470 gallons, or 9,280,750 gallons more than in June.

PORT.	Illuminating.	Lubricating.	Residuals.	Gas Oil (Solar).	Benzine.	Fuel Oil.	Other Descriptions.
Aberdeen	—	1,990	—	—	15,000	—	—
Barrow	637,690	—	—	—	625,000	85,370	—
Belfast	637,690	4,320	—	656,480	—	—	—
Boston	—	120	—	—	—	—	—
Bristol	1,547,000	143,720	—	1,127,190	550,000	—	4,000
Cardiff	—	2,540	—	—	—	—	—
Cork	—	320	—	—	—	—	—
Dublin	—	210	—	—	—	—	—
Dundee	—	5,160	—	—	—	—	—
Glasgow	—	274,550	—	—	—	—	12,400
Gloucester	—	3,280	—	—	—	—	—
Goole	—	580	—	—	—	—	—
Grangemouth	—	5,680	—	—	—	—	—
Granton	—	—	—	—	434,000	—	—
Grimsby	—	3,520	—	—	—	—	—
Harwich	—	8,760	—	—	—	—	—
Hull	1,429,000	205,400	—	—	—	—	—
Leith	2,180	32,000	—	—	—	—	—
Limerick	—	200	—	—	—	—	—
Liverpool	385,880	1,063,240	23,280	1,588,850	1,971,360	—	30,750
London	7,809,480	2,254,300	11,540	4,967,710	4,023,550	4,189,410	—
Manchester	469,310	644,240	—	392,050	—	23,910	4,340
Middlesbrough	—	6,400	—	—	—	—	—
Newcastle	—	19,280	—	—	—	—	—
Newport	—	500	—	—	—	—	—
Portsmouth	—	80	—	—	—	—	—
Stockton	—	—	—	—	—	—	150
Sunderland	—	—	—	53,820	—	—	—
Swansea	—	6,490	—	—	—	—	—
Totals	12,918,230	4,686,880	34,820	8,786,100	7,618,910	4,298,690	51,640

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„ Servian ...	6,700	New Steamer	6,200	„ Luciline ...	5,200
„ Carpathian	6,700	„ „	6 200	„ Le Coq ...	4,700
„ Roumanian	6,700	„ Terek ...	5,200	„ Rock Light...	4,100
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Company.	Share Capital.	Value of Shares.	Latest Prices.
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Anglo-Maikop Corporation .	650,000		
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{2\frac{3}{4}}{3\frac{1}{2}}-\frac{3\frac{1}{2}}{4}$
„ 5% Deb. Stock ...	600,000	£100	86-89
Assam Oil ...	310,000	£1	$\frac{9}{16}-\frac{11}{16}$
Baku Russian Petroleum Co.	750,000	10/-	4/6-5/0
Bibi-Eibat Oil Co. ...	312,500	10/-	4/9-5/9
Californian Oilfields...	500,000	£1	$6\frac{3}{16}-6\frac{5}{16}$
European Oilfields ...	385,000	10/-	6/3-6/9
Lobitos Oilfields, Ltd. ...	400,000	£1	24/6-25/6
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{11}{16}-\frac{13}{16}$
Pacific Oilfields, Ltd. ...	250,000	£1	2/0-3/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	19/9-20/9
Russian Petroleum Co. ...		10/-	3 6-4/0
Schibaieff Petroleum, new Pref. (fully paid) s/s		—	$1\frac{3}{8}-1\frac{1}{2}$
„ „ new Ord. 575,000 s/s		(fully paid)	13/3-14/3
Shell Transport and Trading	2,500,000	£1	$5\frac{3}{4}-5\frac{15}{16}$
„ „ „	1,200,000 Pref.	£10	$10\frac{3}{4}-11$
Spies Petroleum Co. „	600,000	10/-	23/3-24/3

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f. pd.	100	660	663
Caspian Society (Issue 1910) ...	1,000	2,825	2,875
A. I. Mantascheff & Co. ...	250	630	632
Nobel Bros....	5,000	17,050	17,100
Nobel Bros. (Issue 1912) ...	—	875	877
Russian Naphtha Society ...	100	253	255
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	251½	253
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co ...	—	386	387½

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Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
British Australian Oil Co., Ltd. ...	300,000	£1	2/0
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	37/9
6% Cum. Pref.	100,000	£10	£11½
Burmah Oil, Ord. ...	1,100,000	£1	74/0
Pref. ...	250,000	£1	25/4½
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	6/7½
Mexican Eagle Oil, Ltd.,			
Non. Cum. Pref. ...	\$8,500,000	\$10	46/6
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	36/6
Pref. (£1 paid) ...	100,000	£1	22/6
Premier Oil Ord. ...	2,300,000	£1	12/6
Pumpherstons Min. Oil Co., Ltd.			
Ord. (17/- paid) ...	110,500	17/-	5½½
6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	8/6
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	73/3
„ „ „ „ B „ Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).
Dordtsche Petroleum Industrie My., Ord. ...	Aand 179
„ „ „ „ Pref. ...	176
Royal Dutch Petroleum Co. ...	606
Mocara Enim Petroleum Maatschappij ...	225
Perlak Petroleum Maatschappij ...	67
Sumatra Palembang Petroleum Maatschappij ...	223
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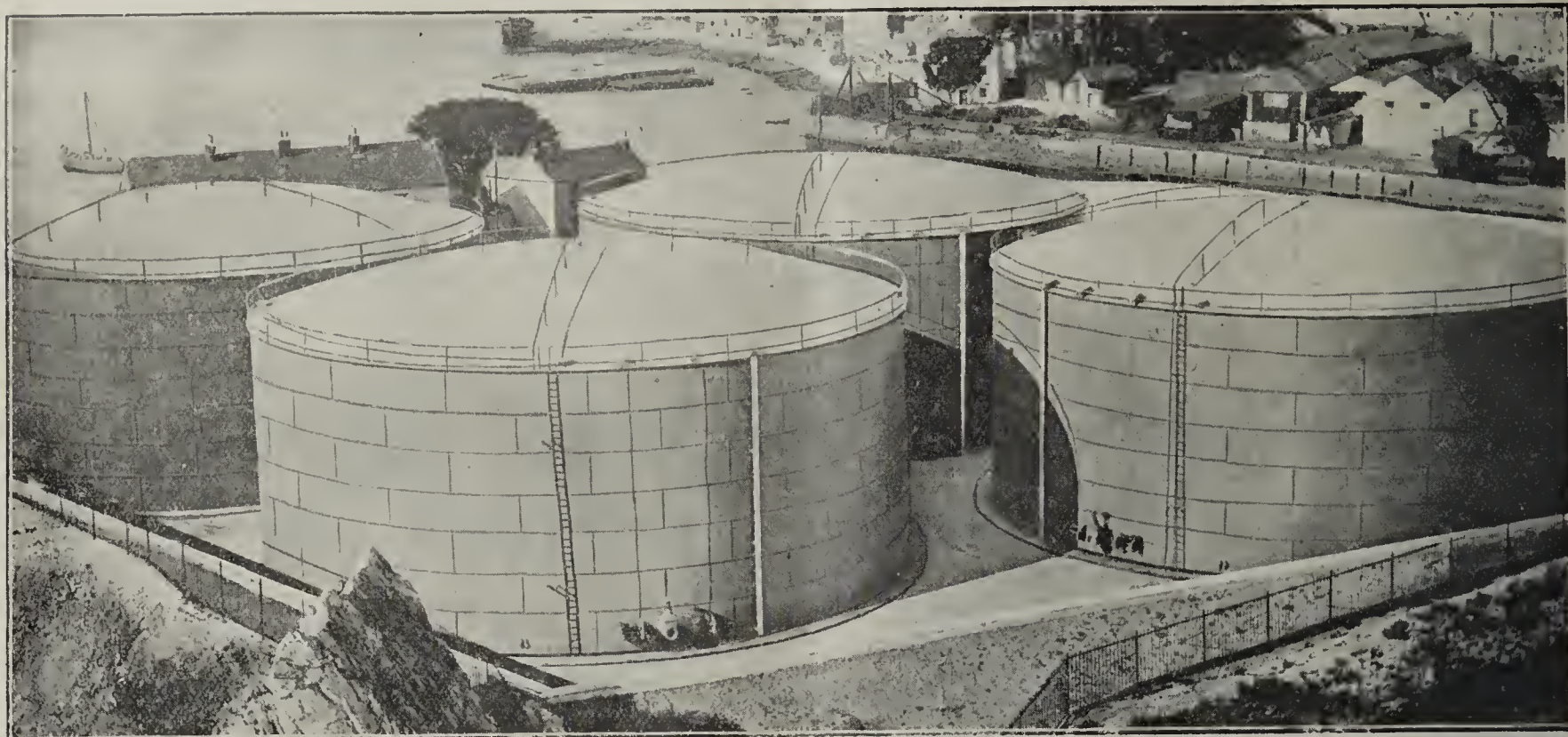
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CHIEF CONTENTS.

	PAGE
Editorial Notes	167
Production of English Companies in Russia	168
The Oilfields of Burma	169
The Testing of Benzines	171
Petroleum Imports into the United Kingdom during July	172
Latest Quotations of Petroleum Shares	174
The "Royal Dutch" in California	177
Classified Imports	178
Notes from the Oilfields	179
Miscellanea	180
The Flash Point of Oils	181
Petroleum and Natural Gas in Oklahoma	183
Developments in the Oilfields	185
Home and Foreign Market Intelligence	186
The American Oil Market	187
Imports of Petroleum Products	188

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PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, AUGUST 16TH, 1913.

THE "ROYAL DUTCH" IN CALIFORNIA.

SINCE the "Shell" Transport and Trading Company, Ltd., joined hands with the "Royal Dutch" Company history in the expansion of petroleum enterprise has been rapidly made. There has been a continuous advance in the acquisition of oil properties the

world over, until to-day this powerful group of interests embraces in its circle of activity the utmost corners of the two hemispheres.

But without doubt the boldest move yet made by the Royal Dutch Company is that announced during the present week of the acquisition of the whole of the properties of the California Oilfields, Ltd. Among the whole list of English companies operating in the prolific territories of California one concern alone has for years stood prominently out as being remarkably successful in its operations, and that is the California Oilfields, Ltd. Formed in the early part of 1901, when petroleum enterprises did not rank in the public eye with that importance they do to-day, the California Oilfields, Ltd., soon commenced to more than justify its existence, for with such gentlemen as Sir Robert Balfour, Bart., directing its operations it immediately set out for itself a carefully worked-out programme, which promised not only quick but permanent returns for the invested capital. In 1904 its first dividend was declared—a modest ten per cent.—and since that time its return to shareholders has been of a particularly gratifying character, the dividend being as high in one year as forty per cent.

It goes almost without saying that a company capable of showing such splendid results has, for a long time, been the envy of not only the smaller operating oilfield concerns, but has commanded the eyes of the companies of more international importance, who must have recognised that in the California Oilfields, Ltd., lay the key to immediate success in the Californian petroleum industry. When, therefore, at the last general meeting of the company, the chairman confided in the shareholders, by mentioning the fact that “the directors had under consideration certain important proposals with a view to the advancement of the company’s interests,” rumour was immediately rife as to what was in the atmosphere.

Those who have followed the progress of events in the Californian fields of late were able to draw but one inference from such a statement, for it was well-known that the Shell-Royal Dutch interests had already set foot in California and were on the look-out for the taking over of a concern whose career had not only been successful, but whose prospects were of a highly promising nature. The announcement therefore which has been publicly made during the present week has

come in many quarters as no surprise, though we agree that the complete absence of any suggestion of this coming amalgamation by Sir Marcus Samuel, Bart., at the comparatively recent meeting of the Shell Company tended rather to deny than to support the rumour which was prevalent in the City, and which now is proved to have been well founded.

The acquisition of the California Oilfields, Ltd., by the Shell-Royal Dutch group is without doubt a well-conceived move and one which will be beneficial for the shareholders all round. The brief details announced upon another page are in themselves sufficient to show how liberal have been the terms upon which the deal has been concluded, and if there be one regret at the consummation of this well-timed arrangement, it is that henceforth one of the most successful English companies ever associated with the petroleum industry will automatically drop out of existence, and those gentlemen who have in the past so well directed its operations, will, for the time being at all events, pass from the arena of oil.

Some section of the Press, we note, is taking up the unwarrantable attitude of attacking the scheme by reason of the fact that the properties hitherto in the hands of an English company will now pass under the regime of the Dutch: such criticism, however, can only appeal to the narrow-minded. Rather would we look upon the transfer of these important properties in the broad light of the effect which such a deal will have upon the petroleum industry as a whole. In California, we know, the petroleum industry has had a successful yet a steady growth in the past, for it has not had at its beck and call a wealth of financial assistance such as will now be forthcoming. The Standard Oil Company saw the remarkable opening which lay ahead of the Californian petroleum industry years ago, and to-day it is doing all humanly possible to strengthen its position in those fields. Now, with the advent of the “Shell” interests, we may hope to see the birth of that healthy business competition which never yet did anything but good in any branch of commerce.

California, to-day, ranks as the most important oil-producing field in the new continent, and it is safe to assert that inasmuch as the most powerful petroleum interests in the world look upon the State in so favourable a light, it will continue to rise in its importance as the great venue of petroleum production in the west.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO AUGUST 11th, 1913.

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IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Aug. 4.	From Jan. 1.	Since Aug. 4.	From Jan. 1.	Since Aug. 4.	From Jan. 1.	Since Aug. 4.	From Jan. 1.	Since Aug. 4.	From Jan. 1.	Since Aug. 4.	From Jan. 1.	Since Aug. 4.	From Jan. 1.	Since Aug. 4.	From Jan. 1.
Belgium ..	—	—	15,480	438,763	—	—	—	—	—	—	—	120	—	4,240	15,480	454,123
Canada ..	—	—	—	7,040	—	23,940	—	—	—	—	—	—	—	—	—	30,980
Dutch Indies ..	—	—	—	—	—	—	—	—	2,600,000	23,696,990	—	120,820	—	—	2,600,000	23,817,810
Germany ..	—	129,920	25,350	2,135,480	—	—	—	107,120	—	—	—	400	—	2,400	25,350	2,375,320
Holland ..	—	—	410	7,750	—	—	—	—	48,000	4,625,340	—	—	—	590	48,410	4,633,680
Mexico ..	—	4,007,400	—	—	—	—	800	800	—	734,700	—	10,361,360	—	—	800	15,104,260
Roumania ..	397,000	11,449,767	—	—	—	—	—	1,150,000	—	1,728,000	—	7,504,720	—	—	397,000	21,832,487
Russia ..	—	5,339,680	837,580	9,417,390	150,600	389,370	—	—	—	9,827,450	—	—	—	—	988,180	24,973,890
U.S.A. ..	6,449,350	65,310,026	1,563,080	30,331,364	10,720	157,340	2,039,590	39,795,270	—	15,250,800	—	2,240,090	31,360	665,105	10,094,100	153,749,995
Other Countries	—	80	360	92,260	—	480	—	—	—	4,859,240	—	620	200	1,460	560	4,954,140
	6,846,350	86,236,873	2,442,260	42,430,047	161,320	571,130	2,040,390	41,053,190	2,648,000	60,722,520	—	20,228,130	31,560	673,795	14,169,880	251,926,685

NOTES FROM THE OILFIELDS.

AMERICAN.

To Develop the Argentine.—The National Chamber of Deputies of Argentina has approved a budget item authorising the expenditure of \$425,000 for the development of the oil deposits in the Comodoro Rivadavia region.

Oil Lands Withdrawal.—By unanimous consent the Senate has recently passed a Bill making Oregon oil lands withdrawn or classified as oil lands, subject to entry under the Homestead or Deserted Land Laws.

A New Tank Farm.—A permit has recently been granted the Standard Oil Company for the construction of storage tanks on the lake front at Lake Charles, Louisiana. The Texas Company and the Waters Pierce Company have already storages there.

Gulf Coast Shipments.—During June slightly over 2,000,000 gallons of petroleum and products were exported from the Gulf Coast ports, not less than twenty-six different cargoes leaving the ports of Sabine, Port Arthur, and Baton Rouge.

Testing Jefferson County.—The test well, which is being put down in Jefferson county, Ala., near Bryan, is now over 3,000 ft. deep, at which depth an excellent showing of oil has been met with. The real sands, however, are expected to be met at another 100 ft.

The Caddo Field.—The total daily output of the Caddo field is about 33,000 barrels, which represents a daily revenue at present prices of a similar amount of dollars. There is great activity in the field, and it seems probable that the present limits will soon be materially extended.

Canada's Prospective Oil Fuel Supply.—In speaking upon this subject Mr. James White, deputy head of the Conservation Commission, Canada, says, if the tar sands of the Athabasca mean anything, it is that below them are quantities of petroleum. He has every reason to think that they will be found to contain oil in paying quantities.

Californian Production.—The production of crude oil in the Californian fields for the first half of the present year amounted to 47,221,000 barrels, as against 46,300,000 for the corresponding half of 1912. For the first half of last year the consumption was 3,000,000 barrels below the crude oil output, but this year it has exceeded the production by about half a million barrels.

Dredging the Panuco River.—In order to facilitate the export of Mexican crude oil the Government has given out a contract for the dredging of the Panuco river for a distance of ten miles from the front of Tampico harbour at a cost of approximately \$2,000,000. The work will take three years to complete, when the stream will have a minimum depth of 32 feet so as to allow ocean-going oil tankers to take cargoes of oil direct from the loading racks at one of the centres of production.

Panama Canal Storages.—The Panama Canal Commission has announced its readiness to make assignments of land at the Pacific end of the Canal for the erection of oil storages under revocable leases. The Commission will install the necessary pumping plant and run the pipelines, private companies erecting the tanks only. Requests for space have already been made from companies both in the United States and Europe. It is expected that a similar announcement will be made regarding the Atlantic end of the Canal in a short time.

RUSSIAN.

The Emba Company.—The balance sheet of the Emba Company for 1912 (7½ months) shows 200,633 roubles total income and 358,073 roubles expenditure, the loss thus being 157,409 roubles.

Nijni-Novgorod Teplokhod.—Under this name a new company has been formed for the purpose of building motor-ships to ply on the Volga. The fleet of motor-ships on the Volga is rapidly growing.

State Petroliferous Properties and Railways.—The Ministry of Ways of Communication has obtained the authorisation to establish petroleum exploitations on State petroliferous lands in the Apsheron Peninsula.

Council of Ministers and Petroleum Affairs.—The Council of Ministers has authorised the navy to receive from the State stores of petroleum, supplied to the State as royalties, 12,500,000 poods of oil a year during the three years 1914–1917.

ROUMANIAN.

Aquila-Franco-Romana.—This company has decided to commence great developments on its properties in Roumania. Besides extending its work at Bushtenari and Bordeni, the company has now acquired numerous concessions at Chiciura, Gropi and Policiori-Arbanash, for which it paid 4,000 francs per pogen and a royalty of 10 per cent.

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MISCELLANEA.

THE CALIFORNIA OILFIELDS, LTD.

AT a board meeting of the directors of the above company, held on Wednesday, the board decided to make the following announcement: Subject to the approval of the shareholders in general meeting to be called for that purpose, the directors of the California Oilfields, Ltd., have entered into a provisional agreement to sell and transfer the entire properties, assets and undertakings of that company (as now held by that company) to the Shell Transport and Trading Company, Ltd., and the Royal Dutch Company, for a consideration of two million six hundred thousand pounds (£2,600,000) sterling, payable as to £400,000 in cash, and as to £2,200,000 in 400,000 ordinary shares of the Shell Transport and Trading Company, Ltd., said shares to be valued for the purpose of said agreement at £5 10s. each.

The Shell Transport and Trading Company, Ltd., become responsible for all the liabilities of the California Oilfields, Ltd., at date of transfer, including the cost of carrying out this agreement, and are to discharge all debentures outstanding as at the date of transfer.

The Shell Transport and Trading Company, Ltd., and the Royal Dutch Company are to assume the undertaking of the California Oilfields, Ltd., as at December 31st, 1912, and the shareholders of the California Oilfields, Ltd., are to be entitled to the same dividends with respect to the accounts of both companies subsequent to December 31st, 1912, as the shareholders of the Shell Transport and Trading Company, Ltd., have received, or may receive, with respect to the accounts subsequent to December 31st, 1912.

An extraordinary general meeting of the shareholders of the California Oilfields, Ltd., will be called in due course in order to consider the terms and conditions of the aforesaid agreement, and if so advised to confirm the same.

We are informed by The Shell Transport and Trading Company, Ltd., that of the 400,000 shares to be given to the California Oilfields Company, Ltd., in part payment of their properties, only 160,000 shares will be issued by the Shell Company, the balance of 260,000 Shell shares being given by the Royal Dutch Petroleum Company, from their own holding of Shell shares.

THE "PARKER" ROTARY DRILL.

A Valuable Catalogue.

WE have received a copy of the new descriptive catalogue of the "Parker" rotary drilling machine and accessories, issued by the Southern Well Works Company, of Chattanooga, U.S.A., whose interests in this country are represented by the J. F. Lucey Co., of Broad Street House, E.C. The catalogue is intended to give prospective purchasers of "Parker" rotaries and accessories reliable information regarding the outfits, and from a perusal of the publication its aims have certainly been secured in a most worthy manner.

The catalogue, in fact, is the most elaborate we have come across whose pages are exclusively confined to descriptions of rotary machinery, and there is no doubt that its distribution will materially assist in making the name of the "Parker" more widely known than it is to-day. It is splendidly got up, and its 156 pages are crowded with a wealth of information and illustrations of "Parker" machines and accessories which must be of enormous interest to all engaged in oilfield operations. We understand that a copy of the catalogue will be sent by the J. F. Lucey Co. upon enquirers mentioning the REVIEW.

CALIFORNIA'S LATEST OIL PIPELINE.

A Gigantic Undertaking.

ONE of the largest oil transporting pipelines in the State of California is that which is now being laid from the Midway oilfields to Los Angeles, and, in fact, is thereabouts completed. It has been constructed and laid by the General Pipeline Company of Los Angeles, which is a subsidiary concern of the General Petroleum Company, and in the new line the capital of three nations is represented. The total cost is placed at approaching \$3,500,000. The line is of an 8-in. screw type and runs a distance of 153 miles. Owing to the fact that the pipe traverses an almost continuous mountain region, several pumping stations have had to be erected, ranging in distance from five to twenty miles between each. The line commences at Pentland, and passing through the southern part of the Midway field enters the Tejon Pass. The line then goes through Castaic county, through Newhall tunnel and the San Fernando valley until it meets the Santa Fé railroad. Thence it proceeds to Vernon, where there is a double topping plant, capable of treating 20,000 barrels daily. From here the line runs direct to Los Angeles harbour. The capacity of the line is from 20,000 to 30,000 barrels daily.

OIL COMPANY REGISTRATIONS.

ACCORDING to the current issue of the *Investors' Guardian* the oil companies registered during the first half of the present year had a total capital of £6,425,799, or about one half the capital of those new enterprises registered during the first half of last year. The following comparative table will be of interest as showing the activity during recent years in the formation of new oil enterprises:—

OIL REGISTRATIONS.

		1st half-year	2nd half-year	Total.
1908	...	£1,225,650	£725,200	£1,950,850
1909	...	3,269,300	1,768,940	5,038,240
1910	...	24,880,390	9,421,947	34,302,337
1911	...	9,462,450	6,398,370	15,860,820
1912	...	13,330,525	10,202,657	23,533,182
1913	...	6,425,799	—	—

THE FLASH POINT OF OILS.

METHODS AND APPARATUS : FOR ITS DETERMINATION. :

By Messrs. IRVING C. ALLEN and A. S. CROSSFIELD (*of the Washington Bureau of Mines*).

(Continued from page 144.)

OTHER workers, as F. F. Beilstein, L. Liebermann, A. Reythien and H. Hempel, and J. T. Stoddard, determined the tendency of an oil to generate vapours by bubbling a current of air through the oil warmed on a water bath, allowing the mixture of oil vapour and air to pass a lighted taper at the opening of the oil cup and noting the temperature at which ignition occurred.

Although these workers claimed satisfactory results the authors have found that results with this type of tester can be made to vary widely by changing the volume of the air current. With a slow stream of small air bubbles passing at the rate of about 0.1 c.c. per second into a 100 c.c. test tube containing 20 c.c. of oil, immersed in a well-stirred water bath, and with all precautions taken to correct the temperature readings, an oil that flashed in an Abel-Pensky tester at 44° C. flashed at a temperature above 50° C. On increasing the air current to a quantity sufficient to give a froth about 1 centimeter deep on the oil a flash point below 30° C. was observed. Because of this wide range in the results obtained, depending alone on the quantity of air used for agitation and combustion, and as any particular quantity of air must of necessity be fixed arbitrarily, it is believed that this method for accurate testing is not reliable.

The method of Beilstein and others for generating the vapours was improved by R. Haass, H. Hörler, and V. Meyer, who warmed a definite quantity of oil and air contained in a closed vessel on a water bath to any temperature desired. The vessel was then agitated by vigorous shaking and replaced in the water bath. The froth and mist formed were allowed to settle until the oil had come to the temperature of the bath. The vessel was then removed, the vapours exposed to a flame or an electric spark, and the flash determined. This method insures the space above the oil being saturated with oil vapour, a condition not true of any other tester, and not necessarily true of the reservoir of a lamp.

The test, however, determines only whether the oil will or will not flash at a given temperature, and is valuable for this purpose only. But to determine the flash point of an oil requires repeated tests, which with this apparatus are time-consuming, and hence not practicable. The flash points determined with this apparatus are some 9° C. lower than those determined with the Abel-Pensky and Pensky-Martens testers.

In efforts to determine under what conditions oils become dangerous K. W. Charitschkoff, Geissler, Meusel, Salleron and Urbain, and P. H. Vanderweyder endeavoured to establish definite relations between the vapour pressures developed by oils contained in closed vessels and their fire hazard. Their efforts were unsuccessful, as the fire hazard, though affected by

the vapour pressure, depends on other physical and chemical factors as well.

D'A. de Barran, F. P. Beilstein, and T. Rosenblatt endeavoured, also without success, to establish a definite relation between the fire hazard and the quantity of vapours distilled between given temperatures. Dr. P. Dvorkovitz maintains that the distillation test is the best criterion for the determination of the fire hazard of an oil, and states that a good safe oil can be obtained by allowing the finished refined oil to contain a quantity of light oils, of which not more than 10 per cent. should distil below 150° C., and not more than 10 per cent. should be left as residue after distillation at 300° C.

The important points to be considered in the construction and manipulation of an instrument to determine the flash point of an oil may be stated as follows.

Tests should always be repeated and always with fresh samples of oil. The conditions under which the test vapours are generated should be as like as possible to the conditions found in practice. The quantity of oil should be such that no change in composition takes place because of the generation and the consequent loss of the vapours or the lighter fractions from the body of the oil.

Barometric pressure has a decided effect on the flash point. A rise of 1 mm. in the barometer raises the flash point, according to different workers, by 0.03000° C., 0.0444° C., 0.0360° C., 0.0355° C., or 0.0444° C., an average of 0.0381° C. A sudden change of barometric pressure, however, causes only a slow change in the flash point, because time is an important factor in the evolution of vapours from an oil. The flash point finally observed should be corrected for barometric pressure.

The shape and size of the oil cup are important. As regards the size of the cup, the greater the surface of oil exposed the more rapid will be the evolution of the light and inflammable vapours at any given temperature, and consequently the lower will be the flash point.

The thickness of metal in the cup has significance. A heavy cup and cover will require more heat to warm them, which will lengthen the time of the test. The cup and cover of the German Abel-Pensky tester weighs about 143 grammes, whereas that of the British Abel tester weighs about 76 grammes. The German Abel-Pensky tester therefore gives a slightly retarded—that is, higher—result than the British Abel tester.

The distance of the surface of the oil below the rim of the cup should be definite and always the same. The test should always be made when the oil surface is on the mark and not above it. The usual practice is to fill the cup with cold oil to the mark in preparing for the test and to disregard the expansion of the oil during the subsequent warming.

A projecting point should be used as the mark for filling, as in the Abel-Pensky tester, and not a line, as in the Pensky-Martens tester. The surface of the oil can be read with reflected light at a point projecting 1 cm. from the side of the cup more accurately than at a line on the side of the cup, because the meniscus

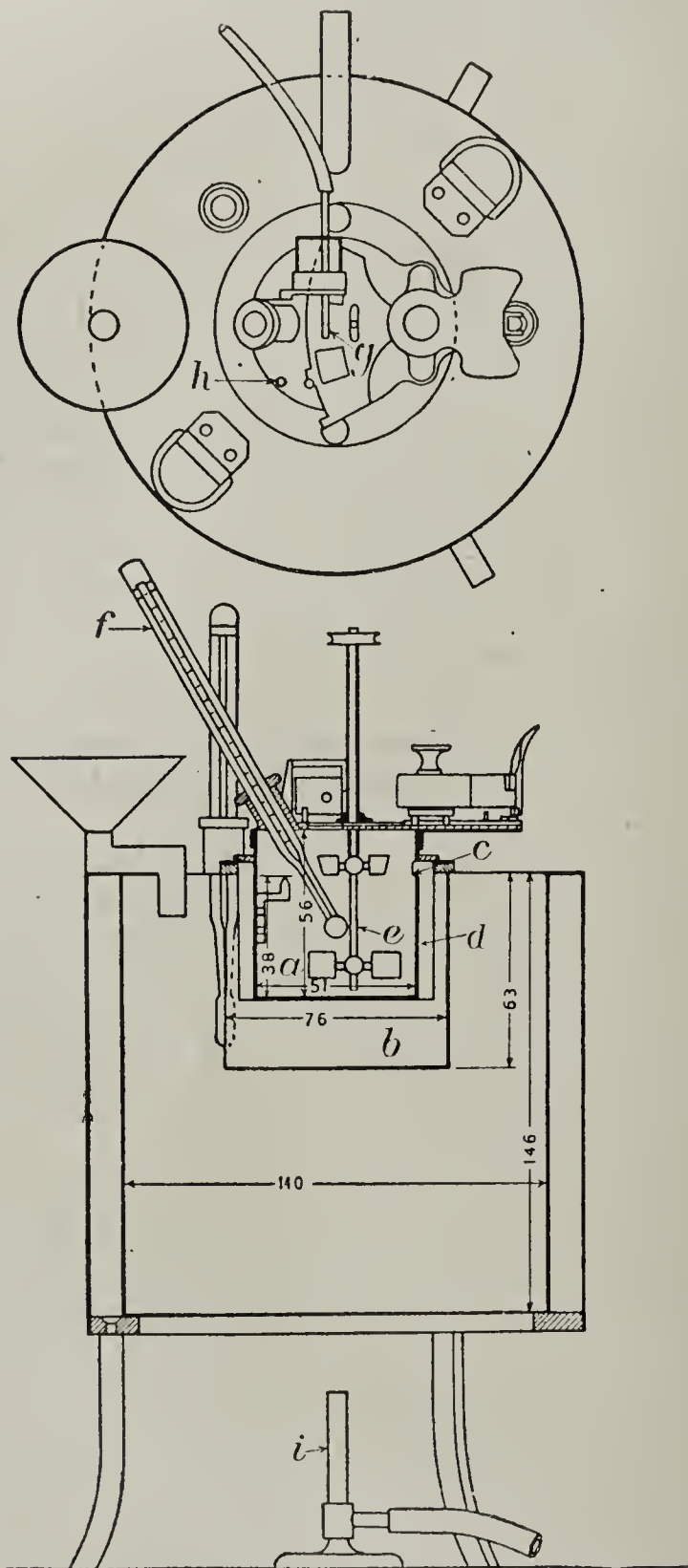


FIGURE 1.—Abel-Pensky flash tester, Bureau of Mines model. *a* oil cup; *b* bath; *c* overflow for oil expanding by heat; *d* overflow cup for oil overflow at *c*; *e* stirrer; *f* thermometer; *g* test flame; *h* ivory bead to judge size of test flame; *i* Bunsen burner.

formed by the oil surface at the side of the cup will distort the reflected image and in obscure light will render precise reading difficult. Filling the cup 2 mm. above the mark in a Pensky-Martens tester may result in depressing the flash point by 2.5°C . with an oil that flashes at 150°C ., and as much as 7.5°C . with an oil that flashes at 300°C . A variation in filling of 6 mm. in a Pensky-Martens tester, according to D. Holde, makes a difference of 1 to 1.5°C . in the flash point. A. Martens states that an initial filling of 20 c.c. below the mark raises the flash point 1 to 2.5°C ., and a filling of 20 c.c. above the mark lowers the flash point 1 to 1.5°C .

The authors found that during a test a particular lamp oil, heated from room temperature (23°C .) to its flash point (46°C .), expanded a vertical distance of

0.5 mm., or 0.022 mm. per 1°C . A lubricating oil, heated from room temperature to its flash point (205°C .), expanded a vertical distance of 2.2 mm., or 0.012 mm. per 1°C . It is important, therefore, that the cup be always filled exactly to a definite point and that it be kept filled to this point during the entire time of the test. The testers used by the Bureau of Mines have been fitted with small overflow tubes as shown in figures 1 and 2.

The dimensions of the air space between the cup and the bath are important. The greater the distance the slower will be the rise in temperature, because the slower will be the transmission of heat from the bath to the oil.

The cup should be protected by the bath even to its upper rim, because it is as essential to control the tem-

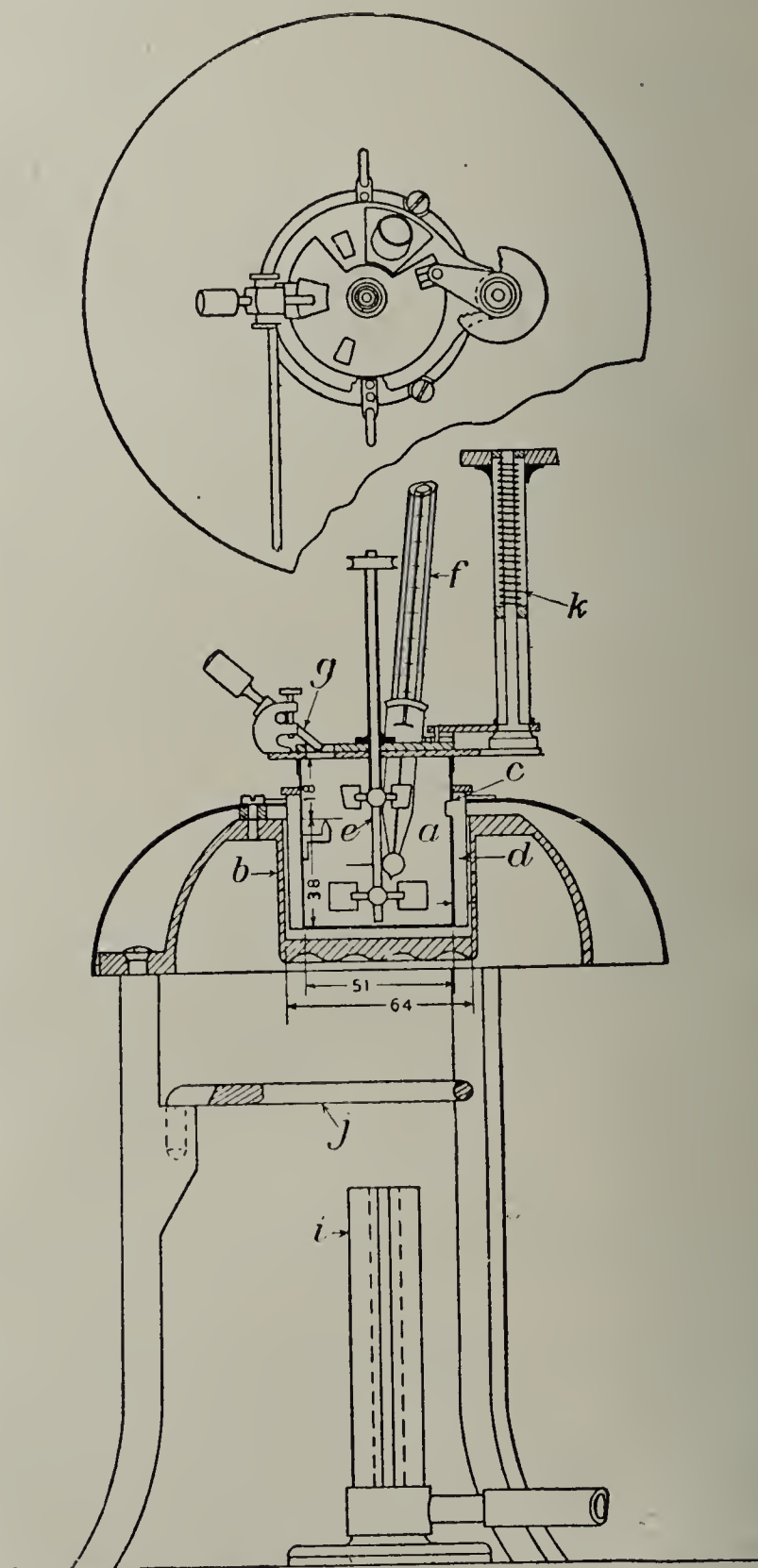


FIGURE 2.—Pensky-Martens flash tester, Bureau of Mines model. *a* oil cup; *b* bath; *c* overflow for oil expanding by heat; *d* overflow cup to collect oil overflowing at *c*; *e* stirrer; *f* thermometer; *g* test flame; *i* Bunsen burner; *j* heating surface; *k* spring to work slide under test flame.

perature of the vapours as to control that of the oil itself, for the inflammability of the air-vapour mixture is affected by its temperature and this temperature should be the same as that of the oil.

(To be continued.)

Petroleum and Natural Gas in Oklahoma.

By Mr. C. N. GOULD.

(Continued from page 102.)

THERE is still, however, a very large area in central, western and north-western Oklahoma, within which there is slight chance of finding oil and gas. This is the great area of Red beds rocks, which, so far as is known, contain few, or no, ledges of sandstone capable of storing quantities of oil or gas, and which were laid down at a considerable distance from any known mountain range.

Taking these facts into consideration, it may be possible to eliminate a number of counties from the area of the probable future oilfields of the state. These will include the three Panhandle counties in north-western Oklahoma, namely: Cimmaron, Texas, and Beaver counties, as well as Harper, Woods, Alfalfa, Ellis, Woodward, Major, Roger Mills, Dewey, Custer, Blaine, Kingfisher and Canadian. To these should, in all probability, be added, Grant, Garfield, Logan, Oklahoma, Cleveland, McClain, Grady, Caddo, Washita and Beckham counties. That is to say, in the light of our present knowledge, taking into account the stratigraphy, structure of the rocks, the conditions under which they were laid down, the known absence of large beds of sand capable of storing petroleum, and all other known data, the chances of finding oil, or gas, in paying quantities, in these regions are extremely small. It is, however, within the limits of possibility that continued drilling will reveal the presence of small deposits of both oil and gas in some of these counties, particularly in eastern Grant, Garfield, Logan, Cleveland, and McClain, and in southern Grady, Caddo, Washita and Beckham counties, but chances for finding them in paying quantities are so meagre that it would not seem wise to recommend the investment of money in drilling operations. At least half a million dollars have been spent within the past ten years in holes in the ground in western Oklahoma, and not a dollar has ever been returned, nor does there seem to be any likelihood of anything of value being found in this region.

There are, however, in south-western Oklahoma within the area occupied by the Red beds, some eleven counties in which the chances for finding oil and gas in paying quantities are as good as in the Wheeler, Petrolia, or Electra fields. For if the assumption be true that the oil and gas found in these fields already developed has been stored in sandstone ledges, which in a former geological age were an outwash from the Arbuckle or Wichita mountains, it must be admitted that other localities, in the same part of the State, have equally good chances for containing these prolific sandstones. The counties included in this area which may be considered good prospective oil and gas territory are Harmon, Greer, Jackson, Kiowa, Tillman, Comanche, Stephens, Jefferson, Carter, Garvin and Love. Within the area occupied by these eleven counties are included all of the Wichita Mountains, as well as the western end of the Arbuckle Mountains. While it is probably true that large amounts of money will be spent in

drilling in impossible places in these counties, the chances are that continued drilling in favoured localities will reveal the presence of several oilfields of considerable size.

CRETACEOUS AREA.

The counties occupied by Cretaceous rocks along Red River, in the south-eastern part of the state, are an unsolved problem. The surface formations in these counties consisting of sandstones, shales and limestones, were, during Cretaceous times, spread out, blanket-like, over what appears to be the upturned ledges of Pennsylvanian or Coal Measure rocks. Oil has been found in small quantities, presumably near the base of the Cretaceous rocks (the top of the Pennsylvanian) at Madill, Hugo, and other points in the area, and it is altogether possible that extensive drilling throughout the Red River counties may encounter considerable deposits of oil. There is, however, in this region no geological evidence, either positive or negative, on the surface, that would enable one to locate a prospective oilfield.

DEVELOPED FIELDS.

Having eliminated the apparently impossible regions and discussed in some detail those parts of the state in which the chances for finding oil are only fairly good, let us now turn our attention to the great Pennsylvanian area, in eastern Oklahoma, which has heretofore been the great producer of petroleum. By far the greater part of the oil and gas so far produced in Oklahoma has come from nine of the northern and eastern counties. There are some twenty other counties, which lie either within the known field or along its edges, or are occupied by rocks of Pennsylvanian age, all of which should, in all probability, produce considerable quantities of oil or gas. These counties will be discussed in brief detail. Many of the statements made, however, must be accepted tentatively, for it must be remembered that new developments are constantly extending the known areas of the possible fields, and that regions, which a year ago would have been considered worthless, are now considered good prospective territory. On the other hand, the finding of "dry holes" in regions considered good will often condemn a considerable area.

Washington County.—Some of the first wells drilled in Oklahoma were located near Bartlesville, in this county. The greater part of the county has proved productive of oil or gas, and practically all of the northern half has been drilled. Some of the most prolific oil pools in Washington County are the Ramsey, Canary, Cotton Creek, Copan, Wann, Webber, Dewey, Squirrel, Bartlesville, Oglesby, and Ramona oil pools, as well as the world-famous Hogshooter gasfield. Many million barrels of oil have been taken from this county, and it is very probable that only a relatively small part of the oil has yet been exhausted. There are three known productive sands, none of them over 1,400 ft. in depth.

Nowata County.—This county includes the greater part of the famous Shallow Field of Oklahoma. The territory east of the Verdigris River, in the south-eastern part of the county, is practically all producing territory. Some of the most noted pools are the Alluwe, Coodys Bluff, Big Creek, Childers, Delaware, Delaware Extension, Lenapah, Berea, and Adair. Considerable areas in the northern and western parts of the county remain to be drilled. This has proved a very profitable county in which to operate, because of the fact that the wells are all shallow. In the Alluwe Field, for instance, the oil is found at a depth of not more than 500 ft.

Rogers County.—This county also lies within the Shallow Field. The Chelsea pool in the north-eastern part of the county; the Sageyah pool near Claremore, and the Collinsville gasfield in the western part of the county, are, at the present, the most prolific areas so far discovered. Oil has been found, however, near Inola, Catoosa, Talala, Oologah, and other points. A large part of the county, however, remains to be drilled.

Tulsa County.—Tulsa County includes such pools as Skiatook, Bird Creek, Flat Rock, Perryman, Red Fork, and the eastern half of the world-famous Glenn Pool, which within the past five years has produced over 100,000,000 barrels of oil. A large part of the county has not yet been drilled, and it is quite probable that a number of additional pools will yet be located.

Osage County.—Only a small part of the eastern half of Osage County has been prospected owing to government restrictions upon the leasing of land. Practically all of the territory drilled has been found to be prolific of oil and gas. Wells are located along the eastern

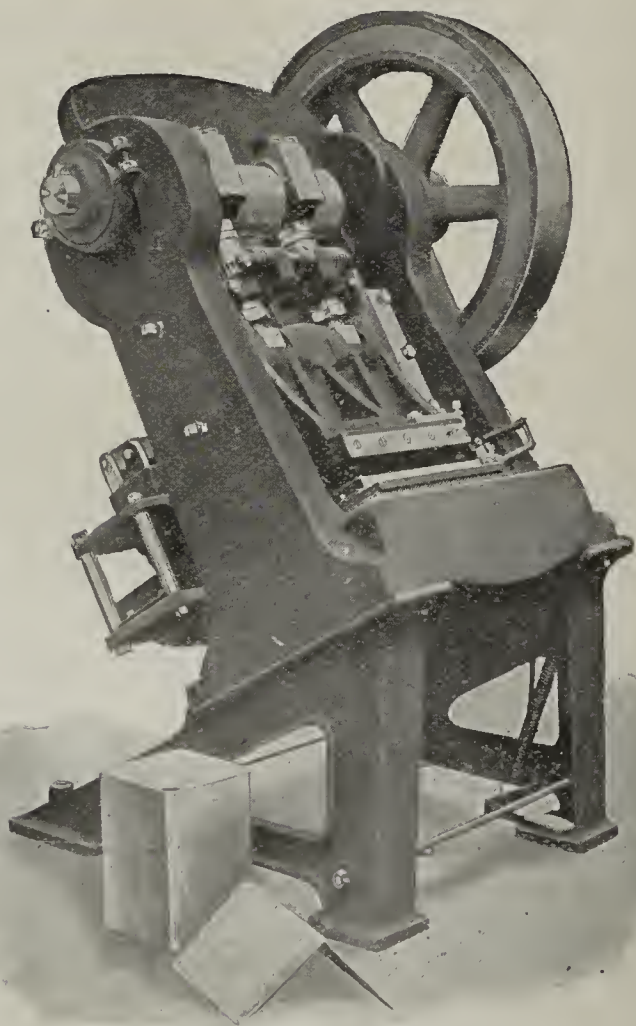
line of the county all the way from Kansas to the Arkansas River. Some of the most noted pools in Osage County are at or near Bartlesville, Bighart, Osage, and Skiatook. Western Osage County, which should be prolific of oil and gas has not been drilled. It is probable that hundreds of millions of barrels of petroleum will yet be produced from this county.

Pawnee County.—Pawnee County includes the noted Cleveland Field, which was one of the first developed in the state. There are in the Cleveland Field five producing oil sands, located at depths ranging from 1,000 ft. to 2,700 ft. The largest well ever discovered in the state was found in this field. It produced 7,000 barrels of oil per day, and was located in the Bartlesville and at a depth of 2,700 ft. Practically all of the southern and western parts of Pawnee County remain to be drilled, and it is very probable that many additional oil pools will be found.

Creek County.—The western part of the Glenn Pool, the largest field in Oklahoma, and its northern extension, the Tamaha Pool, are both located in eastern Creek County. Forty miles away in the western part of the county is the newly-discovered Cushing Pool, which bids fair to rival the Glenn Pool. All of the intervening country, as well as several hundred square miles in the southern part of the county, remains to be drilled. It need occasion no surprise if this county eventually produces hundreds of millions of barrels of oil.

Okmulgee County.—There are a number of producing oil pools in Okmulgee County; the most prolific of which are the Okmulgee, Hamilton, Beggs, Baldhill, Morris, Tiger Flats, Henryetta, and Salt Creek Pools. Large areas known to be productive of oil and gas have not yet been drilled.

(To be concluded.)



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Automatic Bending Device.

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DEVELOPMENTS IN THE OILFIELDS.

LATEST REPORTS OF ENGLISH COMPANIES

Maikop Midland.—Well No. 2, cork still interfering with production. Well No. 4, depth 1,443 ft., deepening to light oil source. Well No. 5, depth 1,347 ft.

Pacific—Cable, dated 8th August, from Mr. Wolfe, the company's representative in California: "Drilling with 4½-in. tools at depth of 3,405 ft. Formation hard grey shale."

Anglo-Maikop Corporation, Ltd.—Telegram dated the 10th inst., from manager at Krimskaya: "Well No. 1, depth 859 ft. Well No. 2, depth 159 ft.; repairing shaft."

Levanovskoe Petroleum Company, Ltd.—Production of crude oil for the week ended 9th inst.: 5,500 poods. Well No. 1, baling and overflowing periodically. Well No. 2, depth 1,785 ft. Well No. 3, depth 687 ft.

Tampico-Panuco Oilfields.—General manager at Panuco cables under date August 13th: "Well No. 1 at Arena, belonging to Tampico-Panuco Oilfields, Ltd., has reached a depth of 1,690 ft. Well No. 1 at Tamboyoché, depth 3,050 ft. under-reaming at 40 ft. from bottom, namely, 3,010 ft. With regard to Chijoles Oil, Ltd., wells Nos. 1 and 2 at Chijoles continue to produce steadily at the rate of about 500 barrels per day. Well No. 3 has reached a depth of 1,480 ft."

The Maikop Spies Company, Ltd.—The directors have accepted an offer, on what they consider favourable terms, for the disposal of plots Nos. 488, 533A and 533B, together with certain of the installations of plant and machinery existing upon these plots. The board have under consideration a scheme for the transference of the operations of the company to another field, the general outlines of which they hope to communicate to the shareholders at the general meeting to be held on September 25th.

Maikop Victory Oil Company.—Circular to shareholders states: The total production from the beginning of this year to the end of June (old style) was 426,416 poods. Compared with last year this shows a falling off, but as active drilling operations are in progress the output should considerably increase in the near future. In addition to the wells on the present producing area, drilling is being carried out on plots 387 and 532—the depths being 670 and 608 ft. respectively. The finding of oil on plot 554 is of considerable importance, in view of its proximity to plot 532 belonging to this company. The developments on and in the neighbourhood of the plots being considered satisfactory, the directors have acquired three further otvods on this part of the field. This makes the total area of the property 243 acres.

British Australian Oil Investment Company, Ltd.—The managing director, Mr. A. E. Hodgson, has forwarded a circular to the debenture and shareholders giving information gathered during his recent visit to Galicia as to the progress made upon the company's properties. The Grymajlo well No. 2 is now down to a depth of 1,105 metres, at which depth all indications of striking oil soon, in payable quantities, are very favourable. The No. 3 well is also at a good depth and showing every sign of becoming a producer—a remark which also applies to No. 1, which in times past has caused trouble to the drillers. A new gas exhausting plant is being erected on the property and is now approaching completion. From the three mentioned wells over 200 tons of oil have so far been obtained, most of this having been used for feeding the boilers. The Tsuschima property has been leased at a profit, the directors feeling justified in "marking time" and conserving their funds as much as possible. The company also retains a good interest in the Rockefeller and Morgan properties, which, as is known, are now being operated by the Motor Owners' Petrol Combine, Ltd.

MOTOR OWNERS' PETROL COMBINE, LTD.

Managing Director's Satisfactory Report.

MR. A. E. HODGSON, the managing director of the Motor Owners' Petrol Combine, Ltd., who has just returned from a visit to Galicia, has this week issued to the shareholders a circular containing some interesting information respecting the company's properties and the progress of the work thereon.

From this it appears that the Rockefeller well maintains a steady production of about 100 tons per working day. During the first six months of 1912 it gave a total production of 13,660 tons, and for the corresponding six months of this year a total of 14,780 tons. Its production for last month (July) was 2,620 tons, notwithstanding the many stoppages during the month for thunder-storms and heavy rains.

The drilling of the Morgan well was commenced at the beginning of this year, and by the first of the present month a depth of 802 metres had been reached, which constitutes a record time for drilling down to that depth in Galicia. Strong shows of oil and gas were encountered between 600 and 700 metres deep. The formation is similar to that of the Rockefeller, which is giving its large production at 1,200 metres deep. A pumping installation is being erected on the Morgan well, to be in readiness for the time when the oil level is reached.

On the company's Rajske property six wells are being or about to be drilled, comprising wells George I. and II. In these two new wells drilling was commenced on No. 1 on June 25th, and the well is now over 140 metres deep, and already good shows of oil and gas have been obtained. On No. 2 the machinery is in course of erection and should be completed next month, by which time drilling can begin. The Michael well, which had been drilled on the property by the original owners to a depth of 800 metres, has recently been cleaned out and the pumping installation completed. The well is already giving a small production of oil and gas. Another existing well, "Waclaw," which has been cleaned out and is now giving a small production of oil and gas. The Menelik well has been cleaned out and has since given a good quantity of gas and a small production of oil, while the Jacob well is being cleaned out and pumps installed. The remainder of the machinery and equipment will probably be erected later this year.

On the Starawies property pumping is proceeding in existing wells, which are giving a small production of about 12½ tons per month, and this special crude oil is being sold at K. 240 (£10) per ton.

The company's refinery at Thames Haven is proceeding apace, and although many delays and difficulties arise from time to time, as they are bound to do in the initial stages of building up a new undertaking, there is good reason to believe the refinery will be in perfect working order and ready to turn out its first deliveries of motor spirit by the date named in the prospectus. The tank storage at Thames Haven has all been definitely arranged and secured over a long term of years, and the company is now in a position to handle, so far as storage is concerned, the full quantity of motor spirit named in the prospectus.

The distribution arrangements are being carefully organised and worked out under the personal supervision of Mr. Charles Jarrott, who is making it his special duty, as a director of the company, to take a keen interest in this important branch of the company's business.

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

August 15th, 1913.

The market prices of Refined Petroleum are as follows:—Russian, 8 $\frac{3}{4}$ d.; American, 8 $\frac{1}{2}$ d.; American Water White, 9 $\frac{1}{2}$ d.; Roumanian, 8d.; Galician, 8 $\frac{1}{4}$ d.

LUBRICATING OILS

are unchanged, quotations remaining for:—

No. 1 Russian, spot and forward, £12. 2s. 6d.
American pale, from £10. 7s. 6d.
American dark, from £12. 2s. 6d.
American filtered cylinder, from £14. 12s. 6d.

FUEL OIL.

The price in bulk, ex wharf, is 75s. per ton; for grease-making oil, 80s.

MOTOR SPIRIT.

The retail price in London for the best quality is 1s. 9d., and for the second quality 1s. 7d. per gallon.

TURPENTINE.

The American Turpentine market shows a little more strength, prices being quoted for spot, 28s. 3d.; September, 28s. 6d.; September/December, 28s. 10 $\frac{1}{2}$ d.; January/April, 29s. 10 $\frac{1}{2}$ d.

LIVERPOOL.

August 15th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8 $\frac{3}{4}$ d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, July 20th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
" Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, August 14th.

Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, August 14th.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, August 13th.

The petroleum prices have remained firm. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA. BAKU, August 13th.

The petroleum market is without change. Crude oil is quoted at 48–48 $\frac{1}{2}$ copecs per pood spot. Mazout, 46–46 $\frac{1}{2}$ copecs. Kerosene, 62–63 copecs.

ROUMANIA. August 13th.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Bushtenari	Francs.
" " " Moreni	...	7.25–7.40
" " " Tzintea	...	6.20–6.80
" " " Policiori	...	4.25–4.75
" " " Bana	...	4.50
" " " Bana	...	8.50–9.00
Paraffin	...	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–30.00
" sp. gr. 0.715–0.720, f.o.b.	...	25.00–26.00
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	16.00–18.00
Residuals, f.o.b. Constanza	...	6.00
Gas Oil	...	8.00

AUSTRIA. August 13th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 33 kronen at Oderberg. Benzine, 710/720, 45 kronen; benzine, 740/50, 34 kronen; 770/80, 22 kronen at Oderberg. Gas oil, 8.00 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, E.C., report under date August 14th as follows:—

Work has now been resumed at most of the mills. The position is unchanged and prices of oilplates are to-day as under:—

1c	18 $\frac{3}{4}$ × 14	124 sheets 110 lbs.	13/6 per box.
1c	20 × 10	225 " 156 "	19/3 "

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

The American Oil Market.

Saturday, August 2nd, 1913.

ADDITIONAL advances in the crude market are to be noted in the Corsicana light, Electra and Henrietta products, all by five cents., bringing them to a dollar basis. This is the first change in these oils since January 28th last, when a similar marking up was occasioned. Prospects for the country's 1913 production, says the *Oil Paint and Drug Reporter*, are already under consideration. The reported runs of the leading pipeline companies in the Pennsylvania, Lima, Kentucky, Illinois and mid-continent fields for the first six months of the year are given as 41,355,097 barrels, comparing with 40,494,536 barrels for the same period of 1912. In addition, is reported the production of California field for the first half of 1913 as 47,221,836 barrels, as against 43,698,532 barrels, covering the first half of last year. On these statistics are based estimates of a slight gain in this year's production over that of 1912. This outcome, if realised, is likely to prove a disappointment in view of the stimulated operations in many of the country's fields during the current year.

The week's review of the Eastern fields shows a substantial gain in completion as well as in new production. The more favourable showing may be incidental to a particular condition and not a reflection of any marked gain in field work. The current returns are given as 258 completions, 5,690 barrels of new daily production and 79 dry holes, as against 205 completions, 4,000 barrels of new daily production and 47 dry holes for the former week. For the corresponding week of last year were noted 192 completions, 7,730 barrels of new daily production and 68 dry holes. Nearly all of the fields in the current week's review showed good gains in the number of new wells, and almost as creditable a showing is noted in the new production returns. West Virginia has forged to the front in the completion list, but the new production record is still well held by Illinois. More than usual interest is centered in the report of field operations for July. A decline in the number of new wells completed in the high-grade fields during the month would not be surprising, as operators are believed to be coming more or less discouraged at the repeated failure of the persistent work to open new pools. During the seven months of the year their efforts in advance of the defined territory have not been rewarded by any strike of particular interest and there seems to be more of a disposition to extend their ventures to some of the newer fields. In West Virginia Roane county has taken the lead in drilling activity following the fairly encouraging results that have marked late operations. Kanawha county still holds interest among the deeper sand districts, but the late returns are light, as compared with the good record of the Blue Creek pool wells. Interest was attracted in a completion in Marion county, which began to flow at the rate of 20 barrels an hour and which was rated as probably good for 500 barrels a day. The well was shut down to provide additional tankage and when opened disappointed the promising expectations by producing not more than 48 barrels the first forty-eight hours. In another district of the county a well was brought in which was credited with 140 barrels the first twenty-four hours. Harrison county was the scene of a completion which was reported to have placed 75 barrels to its credit the first ten hours after the pay sand had been reached. The best strike in the South-

eastern Ohio field for the week was in Muskingum county, which was reported flowing at 60 barrels a day and opening what was considered a possibility for a new Clinton sand pool. Hocking county furnished a fairly good producer rated at 75 barrels a day. An occasionally good well was reported in Perry county. Otherwise the late completions in South-eastern Ohio have consisted of light pumpers and dusters.

Refined Products.

A further expansion in the export movement has been the only development of noteworthy interest in the local market for illuminating oil during the week. Our record of clearances shows a total of 13,279,845 gallons, comparing with 9,828,610 gallons previously noted. Bulk shipments were 7,721,850 and 5,450,000 gallons respectively. The total since the first of the year from the local port is still disparaged by that for the corresponding period in 1912 by 299,510,910, against 329,366,925 gallons, but the decline is less pronounced when all the ports in our statistical summary are considered, the comparison being 510,442,172 gallons this year, against 519,457,360 gallons previously.

Lubricating Oils.

Under the influence of the season a number of manufacturing industries curtail operations; the market for lubricating products, so far as domestic trading is concerned, cannot be regarded as especially active, although the general seasonable average is said to be sustained. Export requirements tend to establish a good balance to the market. Prices may be repeated at the lately prevailing basis for all descriptions.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. August 2.	1913. August 2.
Pennsylvania	\$1.60	\$2.50
North Lima	1.04	1.39
South Lima	0.99	1.34
Indiana	0.99	1.34
Illinois, above 30 degrees	0.87	1.30
Kansas and Oklahoma	0.70	0.98
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex	0.75	0.90
Californian, Coalinga light	0.65	0.60
" Kern River heavy	0.35	0.35
CANADIAN OIL	1.44	1.79

REFINED—FOR EXPORT.

In cents.	Week ended August 2.	
	S.W. 110 test.	W.W. 150 test.
Bulk, New York per gal.	5.00	6.00
Barrels, New York, cargo	8.70	9.70
Barrels, Philadelphia	8.70	9.70
Cases, New York	11.00	12.00
Cases, Philadelphia	11.00	12.00

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000	\$11.15
1,000 to 3,000	11.25

REFINED—JOBGING LOTS.

In barrels, pkgs. included.	
130 fire test, S.W.	12
150 fire test, W.W.	12½
From tank wagons	9

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29½

TOTAL EXPORTS.

	Current week. Gallons.	Since Jan. 1, 1913. Gallons.	Since Jan. 1, 1912. Gallons.
Crude	2,761,580	84,822,049	80,719,545
Refined	19,512,215	510,442,172	519,457,360
Naphtha	1,240,430	59,860,720	89,615,735
Gas oil	500	19,565,265	35,860,740
Fuel oil... ..	4,516,300	75,530,960	39,921,090

WORTHINGTON & BOLER,

LIVERPOOL, LONDON & GLASGOW.

SEE ADVERTISEMENT ON BACK COVER.

Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

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FOR THE WEEK ENDED AUGUST 12TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIPTION.	NO. OF GALS.	PORT WHENCE.
August.	LONDON—			
5	E. G. Boize ...	Lub. Oil and Gr.	90	Hamburg
5	Vacuum Oil Co. ...	Lub. Gr.	250	Antwerp
5	Langley, Smith & Co. ...	Lub.	5,590	New York
5	Scott's Wharf ...	"	2,500	"
5	Anglo-American Oil Co. ...	Lub. Oil and Gr.	12,000	"
5	Ragosine & Co. ...	Lub.	9,860	"
5	Mordaunt Bros. ...	"	2,500	Philadel.
5	J. W. Cook & Co. ...	"	33,920	"
6	Schliemann Oil, etc., Co. ...	Lub. Oil and Gr.	4,300	Hamburg
6	Mercantile Lighterage Co. ...	Lub.	22,690	New York
6	Snowdon, Sons & Co. ...	"	2,930	"
6	Vacuum Oil Co. ...	"	21,850	"
6	Bowring Petroleum Co. ...	M. Colza	200	Naples
7	Port Authority ...	Lub.	4,200	Hamburg
7	Lubricating & Fuel Oils Co. ...	"	24,600	Philadel.
8	Anglo-American Oil Co. ...	"	8,040	"
8	Bowring Petroleum Co. ...	"	2,700	"
9	Asiatic Petroleum Co. ...	Benzine	2,600,000	P. Samboe
9	Port Authority ...	Lub.	2,200	Hamburg
9	E. G. Boize ...	Lub. Gr.	1,020	"
9	Vacuum Oil Co. ...	Lub.	7,360	Philadel.
9	Produce Brokers Co. ...	"	5,200	"
9	British Petroleum Co. ...	Lamp	397,000	Kustendje
9	"	"	707,000	Philadel.
9	Anglo-American Oil Co. ...	"	2,340,430	New York
9	"	Lub.	640,150	"
11	Bowring Petroleum Co. ...	Lamp	341,420	Sabine
11	"	Gas	800	P. Mexico
11	J. Thompson ...	Lub.	1,980	Riga
11	Hanseatic Maritime Agency ...	"	40	Bremen
11	A. Duckham & Co. ...	Lub. Gr.	1,440	Antwerp
11	P. Brancher ...	"	1,510	"
11	Worthington & Boler ...	Lub.	5,200	Philadel.
	LIVERPOOL—			
25/7	Meade-King, Robinson & Co. ...	Benzine	48,000	Rotterdam
5	Liverpool Warehousing Co. ...	"	240	Hamburg
5	Pickford's ...	Lub. Oil and Paste	990	"
5	"	Lub.	190	Antwerp
5	C. W. Field ...	"	320	"
5	Vacuum Oil Co. ...	"	20,640	New York
5	White Star Line ...	"	480	"
6	Anglo-American Oil Co. ...	"	71,680	"
6	Meade-King, Robinson & Co. ...	"	200,900	Batoum
6	"	Lub. Resid	75,300	"
6	Bramwell Fern & Co. ...	"	75,300	"
6	"	Lub.	200,900	"
6	J. T. Fletcher & Co. ...	"	360	Antwerp
6	Vacuum Oil Co. ...	Lub. Resid	10,720	N. News
7	D. Currie & Co. ...	Lub. Gr.	10	Hamburg
7	Pickford's ...	Lub. Oil and Paste	990	"
7	Crew, Levick & Co. ...	Lub.	31,750	Philadel.
7	Bramwell Fern & Co. ...	"	300	"
7	Vacuum Oil Co. ...	"	3,500	"
8	Worthington & Boler ...	"	4,760	"
8	Anglo-American Oil Co. ...	"	16,400	"
9	Vacuum Oil Co. ...	"	10,560	New York
11	Fellows, Morton & Clayton ...	"	1,650	Philadel.
11	Dominion Line ...	"	13,600	"
11	"	M. Colza	6,000	"
11	Bennett's Haulage, etc., Co. ...	Lub.	1,670	"
11	Meade-King, Robinson & Co. ...	"	22,760	"
11	E. Harrison & Co. ...	"	4,000	"
11	Anglo-American Oil Co. ...	"	37,960	New York
11	R. Crooks & Co. ...	Lub. Com.	90	"
11	Huxley & Co. ...	Lub.	1,090	"
11	Anglo-American Oil Co. ...	"	78,760	"
11	Vacuum Oil Co. ...	"	24,340	"
11	C. W. Field ...	"	210	Antwerp
	BRISTOL—			
5	Anglo-American Oil Co. ...	Gas	724,590	Philadel.
5	J. R. Bush ...	Lub.	22,680	New York
7	Anglo-American Oil Co. ...	Lamp	2,353,500	Philadel.
7	C. Hill & Sons ...	Lub.	2,600	New York
7	"	"	16,360	"
7	H. Matthews & Co. ...	"	120	Hamburg
7	Pickford's ...	Lub. Oil and Gr.	1,550	"
8	Heaton & Co. ...	Lub. Gr.	130	"
8	British Petroleum Co. ...	Lamp	707,000	Philadel.

DATE.	PORT AND IMPORTERS.	DESCRIPTION.	NO. OF GALS.	PORT WHENCE.
	BRISTOL—			
8	Ford & Canning ...	Lub.	22,260	New York
8	"	M. Colza	800	"
9	"	"	2,600	"
9	"	Lub.	2,600	"
11	C. Hill & Sons ...	M. Colza	5,200	"
11	"	Lub.	7,700	"
11	Anglo-Bosphorus Oil Co. ...	Lub. Gr.	1,490	Hamburg
	BOSTON—			
7	W. F. Beaumont ...	Lub.	160	"
	CARDIFF—			
7	Bristol Steam Navig. Co. ...	Lub. Oil and Gr.	1,100	Antwerp
	GRIMSBY—			
5	J. Sutcliffe & Son ...	Lub.	390	"
8	"	"	180	"
	HARWICH—			
5	Great Eastern Railway ...	"	360	"
7	"	"	320	"
7	"	"	50	Hamburg
	HULL—			
5	W. Gilyott & Co. ...	"	38,490	New York
5	Wilson's & N. E. Railway ...	Lub. Oil and Gr.	2,320	Hamburg
5	"	"	1,800	Antwerp
5	"	Lub.	80	Antwerp
8	"	"	560	Hamburg
8	T. Wilson, Sons & Co. ...	Lub.	12,680	New York
	MANCHESTER—			
2/5	Bramwell, Fern & Co. ...	Lub.	39,580	Batoum
2/5	Meade-King, Robinson & Co. ...	"	39,580	"
5	Pickford's ...	"	40	Hamburg
5	W. W. Jones, Dooly & Co. ...	"	3,200	New York
6	W. Hodgson & Co. ...	"	480	Riga
6	Anglo-American Oil Co. ...	"	94,790	New York
6	"	M. Colza	4,160	"
6	Liverpool Storage Co. ...	Lub.	450	"
6	Bramwell Fern & Co. ...	"	1,870	"
6	Diamond Lubricating Co. ...	Lub. Gr.	2,500	"
6	D. Currie & Co. ...	Lub.	1,110	Hamburg
6	J. T. Fletcher & Co. ...	"	720	Ghent
7	D. Currie & Co. ...	"	110	Hamburg
7	Anglo-American Oil Co. ...	Lub. Oil and Gr.	114,800	Philadel.
7	Bramwell, Fern & Co. ...	Lub.	14,900	"
7	Wackerbarth, Holt & Co. ...	Lub. Oil and Gr.	610	"
8	Diamond Lubricating Co. ...	Lub.	2,250	New York
8	D. Currie & Co. ...	Lub. Oil and Gr.	450	Hamburg
11	Meade-King, Robinson & Co. ...	Lub.	171,500	Batoum
11	"	"	5,000	"
11	Bramwell, Fern & Co. ...	"	5,000	"
11	"	"	171,500	"
11	British Petroleum Co. ...	Gas	657,500	Port Arthur
11	J. T. Fletcher & Co. ...	Lub.	400	Ghent
	MIDDLESBROUGH—			
5	J. J. Sutherland ...	"	200	Antwerp
5	E. Harris & Co. ...	"	2,800	"
	NEWCASTLE—			
6	P. H. Matthiessen & Co. ...	"	360	Bergen
	PLYMOUTH—			
11	Bristol Steam Navig. Co. ...	"	80	Antwerp
	ABERDEEN—			
5	R. C. Reid & Co. ...	"	2,040	Hamburg
	GLASGOW—			
5	Anchor Line ...	"	33,240	New York
5	"	M. Colza	2,600	"
7	Clyde Shipping Co. ...	Lub. Oil and Gr.	2,210	Antwerp
11	Anchor Line ...	M. Colza	10,000	New York
11	"	Lub.	16,020	"
	GRANGEMOUTH—			
4	Jas. Currie & Co. ...	Lub.	960	Hamburg
	LEITH—			
5	Jas. Currie & Co. ...	"	120	"
5	G. Gibson & Co. ...	"	560	Antwerp
	BELFAST—			
6	G. Heyn & Sons ...	"	1,160	Riga
	CORK—			
7	Cork Steamship Co. ...	"	410	Rotterdam
8	P. Murphy & Co. ...	"	60	Hamburg
8	British Petroleum Co. ...	Gas	657,500	Port Arthur
			14,169,880	

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British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.
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Crew Levick Co., Irwell Chambers, W. Liverpool.
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Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.
Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.
Crew Levick Co., Irwell Chambers, W. Liverpool.
Homelight Oil Co., Ltd., 14-20, St. Mary Axe, E.C.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
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Deutsche - Oesterreichische Mannesmannröhren Werke, Düsseldorf, Germany.
Russell, John, & Co., Ltd., Alma Tube Works, Walsall.
Spencer, John, Ltd., Globe Tube Works, Wednesbury.
Thom, John M., Patrieroft, near Manchester.

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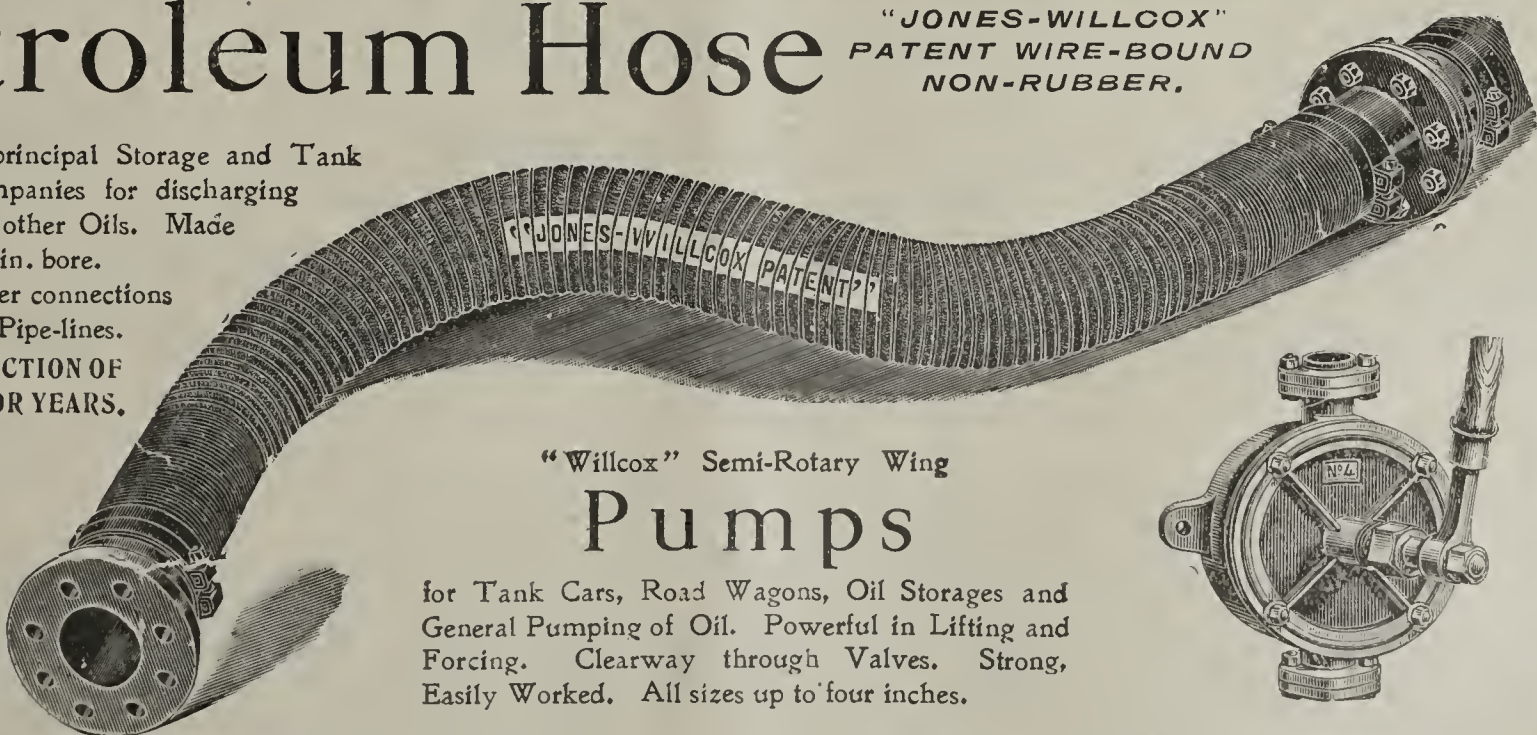
Glaholm & Robson, Ltd., Sunderland. London Office: Finsbury Court, Finsbury Pavement, London, E.C.
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The Petroleum Review.

Founded by PAUL DVORKOVITZ.

VOL. XXIX. (New Series.)

AUGUST 23RD, 1913.

No. 579.

THE PETROLEUM REVIEW.

The ANNUAL SUBSCRIPTION for both English and Foreign readers is 26s., including Postage. Single Copies may be had at the offices at 6d.

The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

Event and Comment.

THE uninteresting nature of happenings in this country's association with the petroleum industry, which has been the chief characteristic during the past few months, still continues, relieved only by the many rumours prevalent as a result of the consummation of the deal by which the Shell interests take over the properties of the California Oilfields, Ltd., as from the commencement of the present year. Viewed simply as a business move on the part of a great organisation to obtain additional strength in the world's oil-producing markets, the deal is, of course, of considerable importance in itself, but it means more than may be seen at a cursory glance. It tells the careful student that come what may, the Shell interests are determined to approach the magnitude of the Standard Company's organisation in regard to its international sphere of operations. In this respect, we have more evidence during the past few weeks, for the files at Somerset House register the formation of three companies, each of which are part and parcel of a gigantic programme, this time in the eastern hemisphere. There has now been formed the Asiatic Petroleum Company for North China, with a capital of half-a-million sterling, the Asiatic Petroleum Company of South China, with a capital of £350,000, and the Asiatic Petroleum Company of Siam. The formation of these companies is striking evidence of what our most enterprising men in oil think of the unbounded opportunities for expansion in petroleum commerce, and the fact stands out in prominent relief to the attitude assumed by the investing public who still labour under the delusion that "Oil is not King." Surely, none are so blind as those who will not see.

The Admiralty's Revised Specification for Oil Fuel.

ELSEWHERE in this issue we publish the details of the Admiralty's revised specification for the supply of liquid fuel for naval needs. A comparison of the new specification with that of 1910 shows that certain modifications have been made, both with regard to flash point, viscosity, and sulphur percentage, as a result of certain experiments, some of which are still proceeding. The most important modification is, doubtless, that relating to sulphur, and here the percentage has been substantially increased in the revised modification, in future three per cent. being allowed. This modification, of course, more particularly affects Mexican fuel, which, as is known, contains an appreciable amount of sulphur, and for this reason has hitherto been unable to conform to the Admiralty demands. As a result of the adoption of the revised specification, Mexican oil fuel will hereafter be in a position to meet the requirements of the Admiralty, and there is little doubt that in the not distant future Mexico will be one of the chief countries from which we shall draw our liquid fuel supplies for Admiralty purposes.

Increasing Supplies of Natural Gas Motor Spirit.

THE condensation of the oil-well gases into "gasoline" is now one of the most active branches of the Californian petroleum industry. For the past couple of years the most enterprising firms have been installing plant for the purpose of extracting gasoline from casing-head gas, but now the movement has spread throughout the entire Californian fields, there scarcely being to-day any producing firm of note which is not either already condensing the gas, or maturing plans for installing condensation plants. The Associated Company, it is generally believed, will shortly enter the gasoline market upon an extensive scale, for with the approaching completion of its refinery at Avon, it will be in a position to deal with large quantities of this new product, which it intends to market at home. It is generally anticipated that the prices for this product will continue to keep at the present figure—from 14 to 18 cents per gallon, retail—because in the near future an over-production seems almost assured.

The Remunerative Nature of the Galician Wells.

SOME striking evidence is given by Dr. Herbing, of Galicia, as to the prolific return which Galician wells are capable of giving—prolific in the nature of the quantity of oil they produce, and prolific in the interest they can well afford to pay on capital invested. As is known, the drilling of the Galician wells are somewhat of a

costly nature, inasmuch as the producing sands are tapped at anything from 3,000 to 4,000 ft. Notwithstanding this initial outlay, however, the floods of oil which many have produced have paid for themselves almost hundreds of times over. To mention a few of the best, there is "Maria Theresa," which has produced over 137,000 tons; "Wilna," with 131,000 tons to its credit; "Premier," with 101,000 tons, and the wells "Dzuina" and "Josef II.," both of which have yielded over 60,000 tons, while coming nearer home, so far as the English investor is concerned, there is the Motor Owners' Petrol Combine well "Rockefeller," which regularly produced 100 tons per day. Excluding the latter well, the others have already yielded 500,000 tons between them, which represents the handy total of £2,000,000. And yet thousands of acres of oil-proven territory in Galicia are awaiting the assisting hand of the financier and the probing work of the drill.

DECEASE OF A WELL-KNOWN BORING TECHNOLOGIST.

WE regret to record the decease of Mr. Heinrich Thumann, at Halle a/S. Mr. Thumann was one of the pioneers of the application of technique to the boring of oil wells, and for many years closely studied the important question. It was owing to his initiative that the "Association allemande des entreprises de forage," and the "Société des techniciens sondeurs," came into existence.

GALIZISCHE-KARPATHEN PETROLEUM A.G.

New Catalogues.

THROUGH the courtesy of Mr. George W. Mancell, the London agent of the Galizische-Karpathen Petroleum Actien Gesellschaft, we have received two very interesting catalogues, which have recently been published by this well-known and enterprising firm. One of the catalogues is exclusively devoted to descriptions and illustrations of the firm's "Karpath" portable drilling rig, which is constructed in two sizes for drilling wells to depths ranging from 500 to 1,000 ft. This rig embodies the latest improvements in portable rigs, light construction having been attained without any material diminution in its strength. The catalogue contains a wealth of information—printed in English and German—and with its numerous illustrations forms a most interesting book. The other catalogue is that dealing with the Sharp & Hughes bit, which, having recently been introduced into Europe, is now manufactured by the Galizische-Karpathen Petroleum A. G. Enquiries for the catalogues should be made to Mr. Mancell.

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PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended August 16th was 110,000 poods.

SPIES PETROLEUM COMPANY, LTD.—Production, week ended August 17th, including 2,365 poods from ambars, was 238,325 poods, or about 3,844 tons. The total production for the year, from Jan. 14th to August 17th, was 8,720,480 poods, or about 140,653 tons. The total production for the corresponding period last year was 10,199,875 poods, or about 164,514 tons. Price of crude oil at Baku, 51½ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD. — The production of crude oil for week ended August 16th was 16,140 poods (260 tons).

EUROPEAN OILFIELDS CORPORATION, LTD. — The production for the week ended August 17th was 45,600 poods, or 735 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week-ended August 16th was 108,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended August 16th was 31,469 poods (508 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended August 16th was 9,000 poods, or 145 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended August 17th was 14,064 poods, or 227 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended August 16th, 21,820 poods or 352 tons. Decrease due to strikes.

NORTH CAUCASIAN OIL FIELDS, LTD. — Production for the week ended August 19th was 189,612 poods, or 3,058 tons. Corresponding period last year, 762 tons. Total production to date for this year, 62,135 tons, last year 17,303 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended August 17th was 69,166 poods, or 1,115 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended August 16th was 10,910 poods.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended August 16th was 8,121 poods (130 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended August 16th was 1,860 poods (30 tons).

CHELEKEN OILFIELDS, LTD.—Estimated production for the fortnight ending August 16th, 2,006 tons. The Baku office states that the drop in the production for the last few weeks is entirely due to the present tropical heat, owing to which the engines are continually stopping for want of cool water.

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THE PETROLEUM INDUSTRY OF ROUMANIA.

REVIEW FOR THE FIRST HALF OF THE YEAR.

THE current issue of the *Moniteur du Petrole Roumain* gives a most interesting article dealing with the production of crude oil in the Roumanian oilfields during the first half of the present year, and for the sake of comparison also gives statistics of the total yield for the corresponding period of the preceding year. The production of the various fields for each month of the first half of the present year compared with that for the corresponding period of 1912 has been as under:—

	1912. Tons.	1913. Tons.
Prahova District ...	758,931	865,545
Dambovitza ...	48,887	19,011
Buzeu ...	39,037	58,675
Bacau ...	15,650	19,661
Total ...	862,505	962,892

The production of crude oil therefore for the present year is showing enormous increase above any previous records. Nor is this due to any abnormal event such as the striking of prolific spouters, which may or may not recur. The increase has been brought about by the greater activity in the fields, and each month's production for the present year has been ahead of that for the corresponding month for 1912. This is clearly seen from the following table:—

	1912. Tons.	1913. Tons.
January ...	127,648	166,331
February ...	145,641	147,753
March ...	139,612	158,622
April ...	143,273	163,683
May ...	144,701	161,416
June ...	161,630	165,087

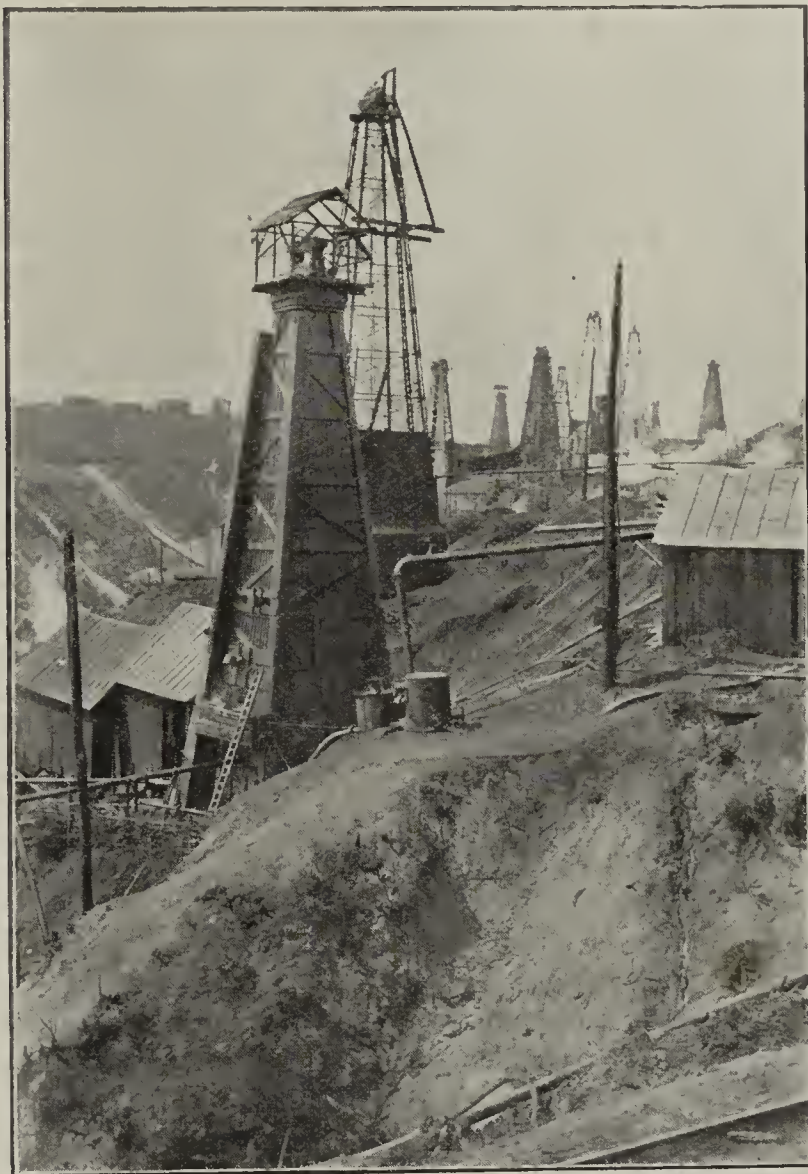
The Prahova district continues to increase in its importance, for, as will be seen from the first table of figures, it provides over 90 per cent. of the country's total crude oil output. The bulk of this is obtained from the Moreni field, where the output remains fairly steady at about 86,000 tons per month. The newer districts of Prahova are well maintaining their output, the Bushtenari-Bordeni-Chiciura-Gropi region now producing about 25,000 tons per month.

Our contemporary points out that had it not been for the Balkan unrest, which has caused some amount of stagnation in regard to the activity on the fields, the output of Roumanian crude oil for the first half of the present year would have doubtless been greater, but as it is, the increase over the output of a year ago is 12 per cent., as compared with an increase of 17 per cent. when the figures of the first half of 1912 are compared with those of January-June, 1911.

The Campina field has decreased in its output, for whereas for the first half of 1912 it produced 160,450 tons, its output for the six months of the present year has been 131,816 tons, or a decrease of 28,634 tons. The Campina field thus continues to register a diminution

in its output, for while in 1911 its yield was over 22 per cent. of the total Roumanian crude oil output it fell last year to 18 per cent., and so far this year is as low as under 14 per cent. This steady decline is, however, not due, either to exhaustion of its wealth or to the field's inability to yield increased production, but due, as our contemporary points out, to the economic programme carried out by the Steaua-Romana, which is responsible for the major part of the Campina output.

The Bushtenari field and its recent extensions for the past six months show an increase of over 6,000 tons,



The Famous "Colombia" Well.

the total yield now representing over 12 per cent. of the total production of Roumania. The developments which are now taking place to the south and south-east of Bushtenari give promise of materially increasing the production, and these will thus compensate for the steady decline in the old Bushtenari district.

The Policiori-Arbanash district of Buzen continues to furnish a yield of crude oil, which amply justifies the hopes held out for this portion of Buzen. For the past six months this region produced 56,374 tons, as against 36,000 tons for the first half of 1912, thus showing an increase of 55 per cent. The production of Buzen is now 6 per cent. of Roumania's total.

MISCELLANEA.

MEXICO'S OIL TRADE WITH PHILADELPHIA

Inauguration of a New Tanker Service.

DURING the first week of the present month the first tanker of a new line which is to trade regularly between Mexico and Philadelphia arrived at the latter port with 1,000,000 gallons of Tampico crude oil, consigned to the Inter-Ocean Oil Company, the vessel being the Norwegian ship "Borgestad."

The Inter-Ocean Company was organised recently in New York, with a capital of \$18,000,000, and it intends to extensively operate on an independent scale in Mexican petroleum products. The REVIEW learns that the company has obtained the plant of the Crew-Levick Company, just below Chester, Pa., at Thurlow, and this will be considerably extended. Much of the refined oil will be sold in the States for the time being, but it is intended to eventually transport the company's refined products to the European markets. The company has secured extensive holdings in the Mexican fields, and a large fleet of steamers is already under charter to trade between Mexican ports and Philadelphia.

GROSNY CRUDE OIL PRODUCTION.

DURING July the production of crude oil on the Grosny fields amounted to 5,686,547 poods against 5,986,592 poods produced during June. This quantity was produced from 258 wells, with an average depth of 1,778ft. Exploitation and exploration work on 101 claims and in 447 wells has been carried out during the month, of which 241 wells were in exploitation and 90 in the course of boring and deepening, whilst 66 have been abandoned, and 30 are in course of construction.

The great boring activity for the first half of the year is seen from the fact that 85,589 ft. have been bored, or more than 28,707 ft. compared with the same period of last year. Active boring operations have been carried on by the Tcheleken-Daghestan Company, which company has bored 11,480 ft. for the first half of the year, and the North-Caucasian Oilfields, Ltd., who have bored 10,976 ft. The production for the half-year was 36,025,424 poods against 32,637,866 poods for the corresponding period of last year. The Tcheleken-Daghestan Company is extremely active and shows most excellent results. In one well, with one length of tube of 18 in. diameter, they have passed 2,142 ft., which from the technical point of view is a remarkable performance.

FORTHCOMING CONFERENCE OF BORING ENGINEERS.

THE programme of the twenty-seventh meeting of the International Boring Engineers, which will take place at Munich, from the 7th to the 10th of next month, has been published. There will be some very interesting

papers read by the following gentlemen: Dr. R. Diesel, on "Diesel Motors and the Petroleum Industry"; A. Foch, on "Official Regulations in Boring Operations on Galician Oilfields"; Professor Oebbeke, president of the meeting, on "Iodine Wells"; Professor A. Schwemann, on "The Cementing of Deep Wells"; Engineer Stein, on "The Thread of Boring Tools, especially the Boring Bit."

The meeting will be of great interest, as most of the leading boring engineers will attend and exchange views upon the various latest systems of boring. Those who wish to join in the conference will do well to write to Professor Dr. K. Oebbeke, Technical High School, Munchen, Germany.

THE ADMIRALTY AND LIQUID FUEL.

Revised Specification.

AS a White Paper the Admiralty's revised specification (1912) for the supply of liquid fuel for naval purposes has been issued during the present week. This specification reads as under:

1. Quality.—The oil fuel supplied shall consist of liquid hydro-carbons, and may be either:

- (a) Shale oil; or
- (b) Petroleum, as may be required; or
- (c) A distillate or a residual product of petroleum;

and shall comply with the Admiralty requirements as regards flash point, fluidity at low temperatures, percentage of sulphur, presence of water, acidity, and freedom from impurities.

The flash point shall not be lower than 175° F., close test—Abel or Pensky-Martens. In the case of oils of exceptionally low viscosity, such as distillates from shale, the flash point must not be less than 200° F. The proportion of sulphur contained in the oil shall not exceed 3 per cent. The oil fuel supplied shall be as free as possible from acid, and in any case the quantity of acid must not exceed 0.05 per cent. calculated as oleic acid when tested by shaking up the oil with distilled water, and determining by titration with deci-normal alkali the amount of acid extracted by the water, methyl orange being used as indicator. The quantity of water delivered with the oil shall not exceed 0.5 per cent.

The viscosity of the oil supplied shall not exceed 2,000 seconds for an outflow of 50 cubic centimetres at a temperature of 32° F., as determined by Sir Boverton Redwood's standard viscometer (Admiralty type for testing oil fuel). Pending settlement of this specification, a viscosity of 1,000 seconds was provisionally adopted in 1912. The oil supplied shall be free from earthy, carbonaceous, or fibrous matter, or other impurities which are likely to choke the burners. The oil shall, if required by the inspecting officer, be strained by being pumped, on discharge from the tanks or tank steamer, through filters of wire gauze having 16 meshes to the inch.

THE FLASH POINT OF OILS.

METHODS AND APPARATUS : FOR ITS DETERMINATION. :

By Messrs. IRVING C. ALLEN and A. S. CROSSFIELD (*of the Washington Bureau of Mines*).

(Continued from page 182.)

THE size of the thermometer bulb is of importance. Differences in dimensions may cause variations in thermometer readings of 0.5°C . The official thermometer used in the British Abel tester gives a flash point 0.14°C . higher than does the thermometer of the German Abel-Pensky tester, principally because of the difference in the size of the thermometer bulbs.

Variations in the depth of immersion of the thermometer bulb are important. An elevation of 2.5 mm. in the depth of the bulb depresses the flash point by 0.32°C . With the bulb immersed to 38 mm. below the surface in an unstirred cup, F. C. Calvert found the flash point of a certain oil to be 34.4°C ., whereas with the bulb immersed 7 mm. the flash point was 36.7°C . The difference would have been inappreciable if the oil had been well stirred.

F. Mayer found that the correction for the exposed portion of the stem of a thermometer which read to 500°C . and was from 265 to 300 mm. long might be as much as 3.3°C . at 150°C ., 4.4°C . at 175°C ., 5.8°C . at 200°C ., 7.3°C . at 225°C ., 9.0°C . at 250°C ., 10.7°C . at 275°C ., 12.6°C . at 300°C ., 14.7°C . at 325°C ., and 16.8°C . at 350°C . To estimate this error for any given thermometer he developed the following formula:— $C=(t-tm)lf(500l)0.00018$, in which C =correction in degrees centigrade, t =temperature of the oil, tm =temperature of the middle of the exposed thermometer thread, lf =length in millimetres of the exposed thermometer thread, l =length in millimetres of the scale of the thermometer, and 0.00018 =cubical coefficient of expansion of mercury.

The heating should be slow and regular so that the vapours are evolved just fast enough to maintain equilibrium between the liquid and gaseous phases at a slowly increasing temperature. The rate of heating should be between 2° and 3°C . per minute, as this rate will insure good equilibrium between the two phases.

The heating should begin at least 10°C . below the flash point, as determined by a preliminary test, in order to give time for equilibrium to be established before the flash point is reached. F. C. Calvert found the flash point of a particular oil to be 34.4°C . when the oil was heated from room temperature to the flash point in 15 minutes, 36.7°C . when the oil was heated to the flash point in 20 minutes, and 39.4°C . when this heating took 30 minutes. He found that if the testing was begun at 7°C . below the flash point, instead of at 10° as stated above, the flash point was raised about 1°C .

Heating of the oil for a number of minutes prior to testing causes a lowering of the flash point because of the loss of the lightest vapours.

On the other hand, cooling of the oil for a number of minutes just prior to testing lowers the flash point

because of the condensation and accumulation of these light vapours, but if the slide of the tester be left open for some minutes just prior to testing, the cooling has less effect.

The differences of temperature at different points within the oil in the ordinary unstirred cup may be as much as 3° to 5°C . The oil is hottest along the bottom and sides of the cup. The heated oil rises to the surface along the sides, then flows toward and down the centre. It may be 2° to 3°C . hotter than the vapours above it. Therefore the oil and vapours must be thoroughly stirred during the test. For this reason the Abel-Pensky tester for lamp oils that is used by the Bureau of Mines is provided with a stirrer similar to that used in the Pensky-Martens tester for lubricating oils.

The size of the test flame is important. A test flame the size of the ivory bead on the cover of the Abel-Pensky tester burns about 0.1 cubic foot of coal gas per hour. A test flame of half this size raises the flash point 1°C ., and a test flame of one and a half times this size lowers the flash point 0.5°C . A variation of 20 per cent. in the size of the flame causes an inverse variation of 0.3°C . in the flash point.

The distance of the test flame above the oil surface is important. The test flame should be at a definite and constant distance above the surface of the oil, as the distance affects the temperature of the bath, the vapours, and the oil. The farther the test flame is from the surface of the oil, the later the flash and the higher the flash point determined. The test flame should not be brought too near to the oil nor should the exposure be too long, for local heating will result and will cause an error in the reading.

A coal-gas test flame gives a flash point 0.3°C . lower than does an oil test flame. An electric test spark gives a variable but usually a lower result than does a gas flame. Because it is not possible to control the intensity and duration of the electric spark and because variations in the intensity and duration of the spark give variable results, the electric test spark should not be used in an official instrument.

The duration of the exposure of the oil vapours to the test flame is important. Frequent opening of the aperture in order to expose the test flame permits frequent escape of the vapours and consequently retards flashing and raises the flash point. Exposing the test flame at each 0.5°C . rise in temperature, as recommended with the German Abel-Pensky tester, gives a flash point 0.14°C . higher than that obtained by exposing the flame at each 1°F . rise in temperature, as is recommended with the British Abel tester.

The testing or exposure of the test flame should begin at least 5°C . below the true flash point after correction is made for barometric pressure.

Allowing the oil to stand for a number of hours in a warm room materially lowers the flash point. Abel found that a lamp oil which ordinarily flashed at 22.8° C. flashed at 18.9° C. when the laboratory was at a tropical temperature (30° C. to 40° C.). In a hot climate or on a hot day the collected vapours should be removed with an aspirator, or one should gently blow over the surface of the cup before putting on the cover in order to obtain results comparable with those obtained with the same oil in a temperate climate or on a cool day. This procedure, however, is not entirely satisfactory, as results obtained by different operators are not uniform. A more satisfactory way is to begin the testing at a temperature some 10° C. below that required in a temperate climate in order to remove the accumulated vapours. This procedure causes the loss of some of the lighter constituents, but such loss is unavoidable, particularly in tropical climates or on hot days, or after the oil has stood for a number of hours in a warm room. Concordant results can be obtained in this way.

The legally-established flash point for an oil to be used in the tropics should be somewhat lower than that for the same oil for similar use in a temperate climate.

The burning point, or that temperature at which the oil ignites and continues to burn in an open cup, is of significance. If the oil is a normal refined fraction of petroleum the burning point will be 2° to 11° C. higher than the flash point. The difference will be considerably greater, however, if the oil be a mixture of a light and a heavy oil. In the case of a refined oil, however, the higher the flash point the smaller will be this difference.

The presence of small proportions of water in heavy oils make the determination of their flash points uncertain, and 1 per cent. will prevent flashing entirely, or at least will delay the flash until after the water has been distilled from the oil. Matuschek found that 0.1 gramme of water in the cup of oil raised the flash point 1° to 2° C. and 0.7 gramme of water raised the flash point about 9° C.

Water also causes frothing of the oil. If an oil that flashes above 80° C. contains 0.2 per cent. of water, only the approximate flash can be obtained, and then only in an open cup-tester with cautious heating and close attention to prevent boiling over.

Finely divided water in mineral oils is difficult to remove by settling or by heating without causing injury to the oil. Warming in any way or distilling to remove the water seriously lowers the flash point and should be avoided; diluting with a lighter solvent introduces a low-flashing oil that will entirely mask the flash point of the oil being tested. The water is best removed by treatment in an electric separator. A convenient method of reducing the water content of an emulsified oil has been developed by F. G. Cottrell, J. B. Speed, and A. C. Wright. The method is admirably adapted to reducing the water content on a large scale. A convenient apparatus for the laboratory may be made as follows:

A glass tube, about 5 cm. in diameter, 30 cm. long, and open at the top, is drawn out at its lower end and fitted with a glass cock. On the inner surface of the tube is fitted a copper-gauze cylinder, extending from the top to 5 cm. from the bottom. Between the gauze and the tube is placed a single wrapping of wet cheese-

cloth or very thin muslin. The tube, held in a vertical position, has centred within it a heavy copper wire or rod, extending from the top to 5 cm. from the bottom. The copper wire and the copper-gauze cylinder are connected by means of leads and a switch, directly to the terminals of a high-potential (2,200 volts) step-up transformer.

The tube is filled with the emulsified oil to be examined, and the circuit is closed. The high-tension current breaks down the emulsion, the water is drawn to the wet-cloth surface, trickles down the cheese-cloth and settles in the lower end of the tube, whence it can be drawn off. With oils containing considerable water, the current must be broken at short intervals to prevent over-heating of the oil. With all oils, frequent breaking of the current is advisable.

This process readily reduces the water content of an emulsion, with little heating, to a very small proportion, and is admirably adapted to reducing the water content of emulsions when heating is objectionable.

In general testing, so far as is possible, the effect of the personality of the operator should be eliminated and the manipulation of the tester made entirely mechanical and automatic. The most accurate tester, and the tester that most nearly reproduces actual working conditions, should be adopted for official tests.

There is no definite relation between the flash point and the density of an oil, as a very small proportion of light oil, not enough appreciably to affect the density, will materially lower the flash point.

The testers that most nearly meet all the conditions that have been described are the closed Abel-Pensky tester, with stirrer, overflow cup, water bath or oil bath, and mechanical exposure of the test flame for exactly one second, fitted with standardized thermometers for oils flashing up to 60° C.; the same tester with a bath of cylinder oil having a flash point of about 250° C. for oils flashing between 60° C. and 150° C.; and the Pensky-Martens tester, with air bath, for oils flashing above 150° C.

The general adoption of these two testers, of like dimensions and, excepting their baths, of like construction, in the United States for all interstate and foreign trade seems advisable, because they are already well known in the United States and are the recognised official instruments in Austria-Hungary, Belgium, Denmark, France, Germany, Great Britain, Holland, Italy, Japan, Norway, Roumania, Russia, and Sweden.

(To be concluded.)

ROUMANIAN PRODUCTION DURING JULY.

Output of Firms Adopting the New Style.

THE production of crude oil in July by firms operating in the Roumanian fields who adopt the new style, was as under:—

	Tons.
Astra-Romana	36,086
Romano-Americana	29,482
Roumanian Consolidated	6,051
Orion	4,180
International	3,756
Nafta	1,667
Aquila Franco-Romana	1,407
Maisels Petroleum Trust	761
Anglo-Roumanian Petroleum Co.	666
United Crude Oil Producers... ..	153
Romano-Belgiana	182
F. F. Oil Syndicate	127
Sphinx Petroleum Company	129

THE OILFIELDS OF NEW MEXICO.

AN INTERESTING LETTER.

THE developments in this new oilfield are satisfactory, says C. A. D. in a letter from Artesia, N.M., to our contemporary the *Oil City Derrick*. Four companies are now working; the Dayton Petroleum Company (a Doheny subsidiary), the Pecos Valley Oil and Gas Company, the Devore Oil Company, and the Belt Petroleum Company. There is one small producer—the Brown well, owned by the Pecos Valley Company, which is pumping approximately 40 barrels per day.

The history of this field is interesting. Ten years ago people came in and filed on homesteads or arid land acreages; and then drilling for artesian water began. The third well brought in had considerable oil; the fifth, so much oil the water could not be used for irrigation, and then practically every well was found to have more or less oil. This caused a boom, but when the Government took the land off the homestead and arid lists, the farmers began to believe they could never get patents if an oil excitement was brought about, so they put a stop to it, refusing leases and in every way hampering the would-be oil men. For several years there was absolutely nothing doing in oil. Four years ago a company, headed by Governor Hagerman, started a well near the Brown producer, but they did not get below the artesian water stratum. Then a company of Artesia business men put down a well on the Mann place, nine miles away. They went to the oil-sand, 1,000 feet. They had a driller from Pennsylvania, and he said the well must be shot. He brought in some nitroglycerine and charged the hole with a barrel of the stuff. The result was that the casing crumpled like tissue paper, and the work went for naught. These people had neither the courage nor the means to drill another well, but in this one there was considerable oil, and it is a tradition that it would have been commercially profitable had it been handled right. Patents began issuing from the Government two years ago. Mr. Charles S. Brown, owner of 160 acres, secured his, and then he gave a lease to the Pecos Valley Company, which at once set a packer and tried to eliminate the artesian water. This they failed to do, and ever since there has been ten times as much water as oil. They have failed to case the water off, but are making a financial success of operations as they are now. They are using only the gas from the well for fuel, and with this they are drilling a well on the Altus lease, now down about 200 ft. Since the granting of patents, however, the people have been willing to lease their lands, and the result has been much activity.

The geology of the country is hard to get at, because there is a valley with heavy overburden above the primary foundation. The general belief, based on the work so far done, is that the first oil sand is at approximately 1,000 ft., and it is from 4 to 70 ft. in thickness;

also, wherever tapped it has yielded oil, giving the idea that it is a live sand. In the mountains, thirty miles away, there are outcroppings of from 5 to 100 ft. of oil sand, lying in three strata, the lower the thickest, and it is figured that this lower stratum will be reached in the present field at about 2,000 ft., judging by the contour of the country.

In the Doheny Company's operations, at about 1,000 ft., they drilled into and through several feet of excessively hard rock, making only 3 ft. per day with the heaviest tools.

There is much gas here. The Platt water well is producing 10,000 ft. of gas per day now, with the artesian water flow, though the bit was stopped when it was only 2 ft. in the producing sand. At the Devore well the other day, two of the drillers were overcome with gas, and there is a constant flow, making the work there rather dangerous. At the Belt well there was a blowout lately and a kodak picture taken at that time shows the gas almost as black as smoke from an engine. At the Brown well they use only the gas from the well for fuel.

A standard rig is being operated by the Pecos Valley Company on the Martin lease. The same company is drilling with a rotary on the Altus lease, and with another rotary on the Terry lease. The Devore Company and the Doheny people are operating standard rigs, as is the Belt Company. The Guffey Company has taken a number of leases through its agent, Leonard Buchanan, who has been located here for four months, and it is understood they are paying \$2 per acre annually. Mr. Buchanan states that it is not the intention of his company to begin drilling right away. Dan McFarland has secured many thousands of acres of leases in the Rocky Arroya, and he said to me that he would begin drilling right away. It is understood that the Doheny interests have taken over 15,000 acres from the Seven Rivers Oil and Gas Company, and have contracted to immediately complete the Seven Rivers well, which is now down 600 ft.

The outlook is apparently good. It will be many months before completions demonstrate the existence of deep oil, but within two months facts will be known as to productiveness of the 1,000 ft. stratum.

SITUATION VACANT.

MECCHANICAL ENGINEER WANTED by Oil-Well Tool Manufacturing Company, for designing and engineering work in connection with Oil-Well Tools. Must have had good technical training, be thoroughly familiar with European Oil-field work, and speak, read and write German.—Box "M.E.," c/o PETROLEUM REVIEW, 45, St. Mary Axe, London, E.C.

THIS WEEK'S OIL-TANKER LAUNCHES.

"Edward L. Doheny."

ON Wednesday last Messrs. Swan, Hunter & Wigham Richardson, Ltd., launched from their Neptune Shipyard, Newcastle-on-Tyne, a fine steel screw steamer which they are building for the carriage of oil in bulk.

The vessel, which is being built on the Isherwood system of longitudinal framing, is of a length of 430 ft. over all, and is being constructed to the highest class in Lloyd's Registry.

She will carry over 9,800 tons total deadweight, the oil cargo and fuel being carried in twenty-two tanks, arranged in pairs, and in each tank there will be a very complete system of steam heating in order to deal with heavy oils rapidly. In every way she will be an up-to-date and complete oil-tank steamer. In addition, there is a hold forward for general cargo with deep ballast tanks, etc. The accommodation for the captain and officers is amidships, whilst the engineers are aft and the firemen and crew will be berthed in the forecastle. Care has been taken to have the accommodation light, airy and comfortable, and there is electric light and steam heating throughout. An installation of wireless telegraphy will also be fitted.

The propelling machinery, placed aft, consists of a set of triple expansion engines which obtain their steam from two large boilers working on the Howden system of forced draught and arranged to burn oil fuel on the Wallsend-Howden system. Both engines and boilers are being constructed at the Neptune works, and are designed to propel the vessel at a speed of eleven knots per hour.

The oil cargo pumps are of large capacity to ensure very rapid discharging of cargo.

The auxiliary deck machinery includes steam windlass, steam and hand steering gear, two steam winches, etc., etc.

As the vessel left the ways she was named the "Edward L. Doheny," after the president of the Mexican Petroleum Company, and the naming ceremony was gracefully performed by Miss Peggy McBride, of Sutton, Surrey, niece of Mr. H. G. Wylie, the general manager of the Mexican Petroleum Company.

Amongst those present were Mr. James Boyd, of Glasgow, managing director of the Petroleum Carriers, Ltd.; Mr. J. O. Wylie, of Belfast; Mr. and Mrs. McBride, of Sutton, Surrey, and Mrs. Cross, of Los Angeles, California, together with Mr. Bradney, of

Messrs. Jacobs & Barringer, under whose superintendence the vessel is being built.

"San Tirso."

The s.s. "San Tirso," which was successfully launched from the Wallsend Shipyard of Messrs. Swan, Hunter & Wigham Richardson, Ltd., on Wednesday, is a sister ship to the s.s. "San Silvestre" that was delivered to her owners—The Eagle Oil Transport Company, Ltd.—last month. These vessels are built on the Isherwood system of longitudinal framing, and are designed for carrying petroleum oil in bulk, and in general design are similar to several steamers which these builders have had in hand for The Eagle Oil Transport Company, Ltd., of London.

The construction of the s.s. "San Tirso" has been supervised by Messrs. Jacobs & Barringer, the owners' consulting naval architects and engineers. As the vessel left the ways she was gracefully named by the Hon. Mrs. Bathurst. Colonel the Hon. B. Bathurst was also present, together with the Hon. B. Clive Pearson, a director of The Eagle Oil Transport Company, Ltd.; Mr. Frank Rendall, their manager; Mr. E. F. Smart and Mr. John Grey, their resident inspectors; Mr. Walter Bradney (of Messrs. Jacobs & Barringer), and a large company of visitors.

The leading dimensions of the s.s. "San Tirso" are 432 ft. over all in length, with a breadth of 54½ ft. The deadweight carrying capacity is about 9,300 tons. All the oil holds and the cross bunker are fitted with steam piping for thinning heavy oils. The interior of the vessel is divided into a number of oil-tight holds by transverse bulkheads and these compartments are again sub-divided by a longitudinal bulkhead. At each end of the range of oil holds there is a cofferdam to completely isolate the oil. There are two pump rooms, containing powerful duplex pumps capable of discharging 300 tons of oil an hour. The captain and officers will be accommodated in the bridge house amidships. The engineers' cabins and also the crew's quarters will be fitted at the after end of the ship. The quadruple expansion engines and boilers are being built by The Wallsend Slipway and Engineering Company. The boilers will be fitted with Howden's forced draught and the furnace fronts are being arranged to burn either coal or oil. When oil fuel is used the well-known Wallsend-Howden patent apparatus will be fitted to the furnace fronts.

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„ Carpathian	6,700	„ „	6,200	„ Le Coq ...	4,700
„ Roumanian	6,700	„ Terek ...	5,200	„ Rock Light...	4,100
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LATEST QUOTATIONS OF PETROLEUM SHARES.

ENGLISH COMPANIES.

This list is restricted to companies who have paid dividends or who are producers.

Company.	Share Capital.	Value of Shares.	Latest Prices.
	£		
Anglo-Maikop Corporation...	650,000	£1	1- ⁹ / ₁₆
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	²⁹ / ₃₂ - ³¹ / ₃₂
„ 5% Deb. Stock ...	600,000	£100	86-89
Assam Oil ...	310,000	£1	⁹ / ₁₆ - ¹¹ / ₁₆
Baku Russian Petroleum Co.	750,000	10/-	4/9-5/3
Bibi-Eibat Oil Co. ...	312,500	10/-	4/9-5/9
Californian Oilfields...	500,000	£1	6-6 ¹ / ₈
European Oilfields ...	385,000	10/-	6/6-7/6
Lobitos Oilfields, Ltd. ...	400,000	£1	24/9-25/9
Oilfields Finance Corp., Ltd.	600,000	£1	¹¹ / ₁₆ - ¹³ / ₁₆
Pacific Oilfields, Ltd. ...	250,000	£1	2/0-3/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	1-1 ¹ / ₁₆
Russian Petroleum Co. ...		10/-	3/9-4/3
Schibaieff Petroleum, new Pref. (fully paid) s/s		—	1 ³ / ₈ -1 ¹ / ₂
„ „ new Ord.	575,000 s/s	(fully paid)	14/0-15/0
Shell Transport and Trading	2,500,000	£1	5 ⁹ / ₃₂ -5 ¹¹ / ₃₂
„ „ „	1,200,000 Pref.	£10	10 ⁷ / ₈ -11 ¹ / ₈
Spies Petroleum Co. ...	600,000	10/-	23/3-24/3

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	660	663
Caspian Society (Issue 1910) ...	1,000	2,825	2,875
A. I. Mantascheff & Co. ...	250	630	632
Nobel Bros....	5,000	17,050	17,100
Nobel Bros. (Issue 1912) ...	—	875	877
Russian Naphtha Society	100	253	255
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	251 ¹ / ₂	253
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	386	387 ¹ / ₂

SCOTCH PRICES.

Supplied by Messrs. MACLEAN & HENDERSON, Stirling.

Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
British Australian Oil Co., Ltd. ...	300,000	£1	3/0
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	38/3
„ 6% Cum. Pref.	100,000	£10	£11 ¹ / ₈
Burmah Oil, Ord. ...	1,100,000	£1	74/6
„ Pref. ...	250,000	£1	25/4 ¹ / ₂
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
„ 5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	8/6
Mexican Eagle Oil, Ltd.,			
Non. Cum. Pref. ...	\$8,500,000	\$10	45/6
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	36/6
„ Pref. (£1 paid) ...	100,000	£1	22/6
Premier Oil Ord. ...	2,300,000	£1	12/6
Pumpherstons Min. Oil Co., Ltd.			
Ord. (17/- paid) ..	110,500	17/-	5 ¹¹ / ₁₆
„ 6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	8/6
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	73/9
„ „ B” Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).	
Dordtsche Petroleum Industrie My., Ord. ...	Aand	185
„ „ „ Pref. ...	„	186
Royal Dutch Petroleum Co. ...	„	635
Moeara Enim Petroleum Maatschappij ...	„	237
Perlak Petroleum Maatschappij ...	„	56
Sumatra Palembang Petroleum Maatschappij	„	238
Zuid Perlak Petroleum Maatschappij, Pref.	„	53
Tarakan Petroleum Maatschappij ...	„	100



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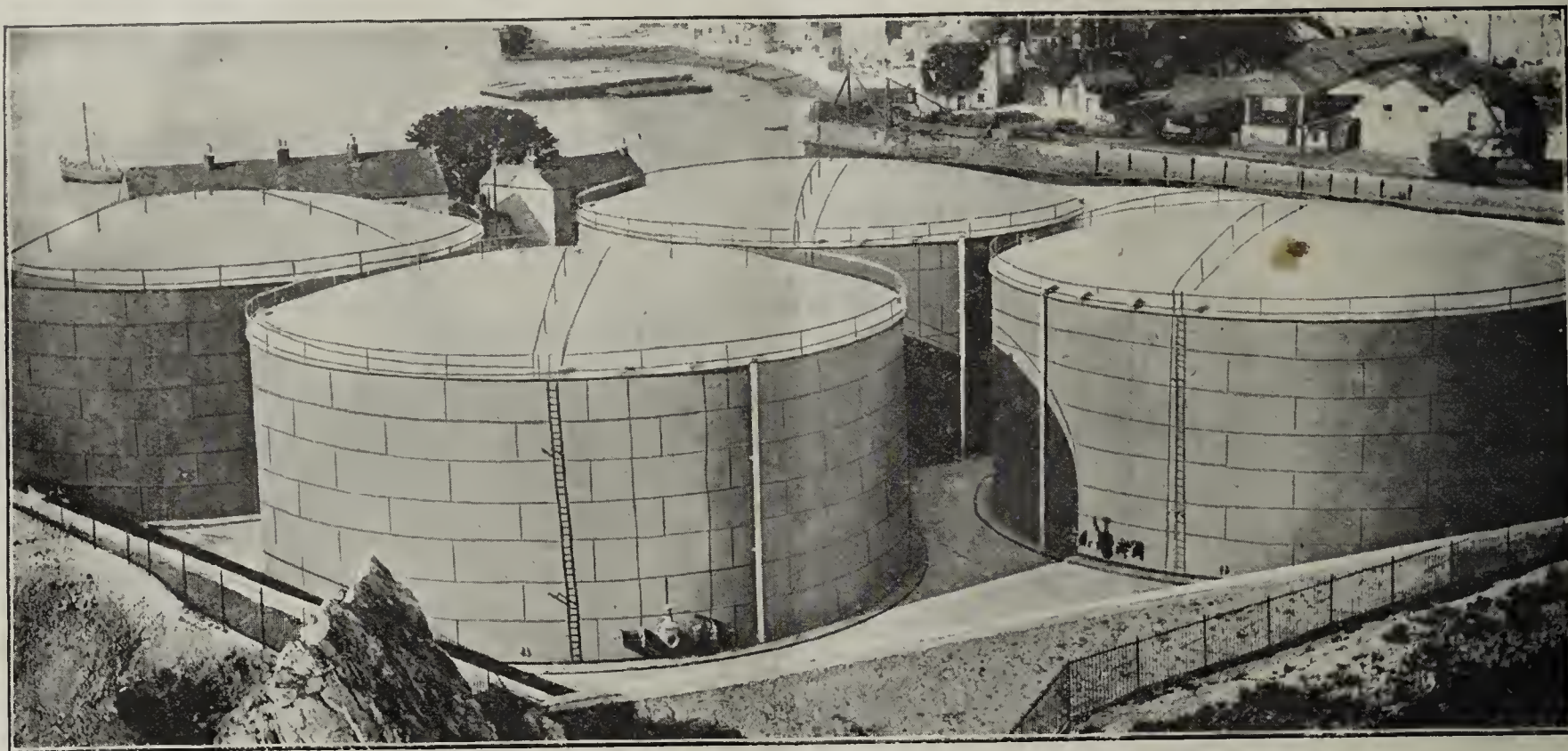
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CHIEF CONTENTS.

	PAGE
Editorial Notes	191
Production of English Companies in Russia	192
The Petroleum Industry of Roumania	193
Miscellanea	194
The Flash Point of Oils	195
The Oilfields of New Mexico	197
This Week's Oil-Tanker Launches	198
Latest Quotations of Petroleum Shares	200
Labour Conditions at Baku	203
Classified Imports	204
Notes from the Oilfields	205
New English Companies	206
The Oilfields of Burma	207
Petroleum and Natural Gas in Oklahoma	209
Developments in the Oilfields	211
The American Oil Market	212
Home and Foreign Market Intelligence	213
Imports of Petroleum Products	214
The REVIEW Shipping List...	215

THE
PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, AUGUST 23RD, 1913.

LABOUR CONDITIONS AT BAKU.

THE general unrest which is now prevalent among the oilfield workers in the Baku fields—unrest, we are happy to say, which seems on the point of slowly dying out—has directed public attention to the labour conditions which exist in the Baku fields; for in the past but very little has been known either of the conditions under which the oilfield workers live, or the remuneration they receive for their services.

It is therefore interesting at the present juncture to deal with the question at some length, and more especially in view of the fact that such a large amount

of English capital is invested in the Baku oil industry. Surprising though it may be to some, it is nevertheless a fact that between thirty and forty thousand workers are regularly employed in connection with Baku's oil industry, either on the fields or in the refineries. The latest official figures obtainable deal with the year 1911, during which period the army of oil workers in Baku numbered 33,000, of which 6,000 were continuously employed in connection with the administration, that is, they were managers, foremen or clerks. Of the remaining 27,000 workmen, 5,500 were skilled employees and 14,500 were unskilled, while the casual labourers numbered 7,000. Almost one-half of the workers were Persians and Tartars, the Russian nationality representing 26 per cent, and the Armenian element 22 per cent. With such a racial mixture there is little wonder that occasionally it is impossible to maintain the greatest quietude amongst the workers.

The present unrest, we know, has been brought about by the demand of the employees, who urge that inasmuch as petroleum products are commanding such unprecedentedly remunerative prices they should participate to some extent in the additional profits which are now being made. We will, therefore, look into the question of wages paid to the oilfield employees in an endeavour to see how far their demands are reasonable. The acknowledged basis of payment for these oilfield workers has hitherto been as under :

Skilled workmen ...	562 roubles per annum, or about £58
Unskilled labour ...	265 " " " £27
Casual labourers ...	231 " " " £24

This scale of payment does not, however, by any means form the total income of the oilfield employees, for in addition they receive payments for renting houses (when the same are not provided at the expense of the company), for lighting, heating, and soap and water. Then, too, the oilfield skilled workers also receive a certain bonus, the amount of which varies in different districts and among different firms, for while some pay a fixed sum in proportion to the quantity of oil produced, others pay a percentage on the wages earned. The bonus system is not confined to the oilfield employees, but extends to those engaged in the petroleum refineries. Taking an average, this bonus is equal to about 8 per cent. of the total wages received.

Three-fourths of the oilfield workers live in houses, provided by their employers, and the remainder receive payment for the necessary accommodation, which though varying, averages in the case of a skilled

married workman 13 roubles per month, but is sometimes as high as double this sum, while in the case of the ordinary labourer, his house allowance is from eight to sixteen roubles per month.

Taking into consideration the facts above described, it is possible to tabulate a statement showing approximately the total income per annum of the oilfield workers, which works out as under :

Married skilled workmen ...	839 roubles per annum, or £93
Single " " ...	772 " " £80
Married unskilled workmen ..	516 " " £54
Single " " ...	386 " " £40

It may not be generally known that in the average an oilfield employee works nine hours per day, though when running in continuous shifts of three per day, his hours are eight daily.

From the figures already quoted it will be generally conceded that the oilfield workman—be he skilled or unskilled—cannot be said to be overpaid, especially at the present time when crude oil in the Baku market is commanding over 50 copecs per pood. His work is not of the most pleasant description, nor are his surroundings of the best, though, to the credit of the English operating companies be it said, recent years have witnessed a remarkable change for the better in this respect. In the words of Mr. Herbert Allen, it may truthfully be said that the Baku oilfield operative is reasonably entitled at the present juncture to some advance in his remuneration. His claim, therefore, is one which should receive the approval of all those who are responsible for the conduct of oil-producing companies in the Baku field. Last year the whole of the oil companies' staff in the Baku fields received wages to the extent of 22,000,000 roubles, and given the whole of their present demands—an increase of 20 per cent. in wages and also a 12 per cent. bonus—this yearly wage bill will be increased by 6,000,000 roubles or about 32 per cent.

The yearly output of crude oil from Baku averages about the figure of 400,000,000 poods, so that the suggested increase will represent but 1½ copecs per pood of oil produced. In periods of abnormally low prices such an increase would be serious, but it must be recollected that the demands have been put forward primarily on account of the prevailing high prices, and seeing that during the past few weeks these have increased by several copecs per pood, it cannot be argued that the demands of the workmen are unreasonable.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO AUGUST 18th, 1913.

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COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Aug. 11.	From Jan. 1.	Since Aug. 11.	From Jan. 1.	Since Aug. 11.	From Jan. 1.	Since Aug. 11.	From Jan. 1.	Since Aug. 11.	From Jan. 1.	Since Aug. 11.	From Jan. 1.	Since Aug. 11.	From Jan. 1.	Since Aug. 11.	From Jan. 1.
Belgium ..	—	—	16,530	455,293	—	—	—	—	—	—	—	120	—	4,240	16,530	470,653
Canada ..	—	—	—	7,040	2,710	26,650	—	—	—	—	—	—	—	—	2,710	33,690
Dutch Indies ..	—	—	—	—	—	—	—	—	—	23,696,990	220,500	341,320	—	—	220,500	24,038,310
Germany ..	2,180	132,100	31,370	2,166,850	600	600	—	107,120	—	—	—	400	1,000	3,400	35,150	2,410,470
Holland ..	—	—	200	7,950	—	—	—	—	5,000	4,630,340	—	—	—	590	5,200	4,638,880
Mexico ..	—	4,007,400	—	—	—	—	—	800	—	734,700	—	10,361,360	—	—	—	15,104,260
Roumania ..	1,408,000	12,853,467	—	—	—	—	—	1,150,000	—	1,728,000	278,800	7,783,520	—	—	1,686,800	23,514,987
Russia ..	1,899,000	7,234,680	440	9,417,830	—	389,370	—	—	—	9,827,450	—	—	—	—	1,899,440	26,873,330
U.S.A. ..	—	65,310,026	609,590	30,940,154	—	157,340	810,810	40,606,080	—	15,250,800	149,640	2,389,730	7,170	672,275	1,577,210	155,326,405
Other Countries	—	80	1,590	93,850	—	480	—	—	—	4,859,240	—	620	—	1,460	1,590	4,955,730
	3,309,180	89,541,753	659,720	43,088,967	3,310	574,440	810,810	41,864,000	5,000	60,727,520	648,940	20,877,070	8,170	681,965	5,445,130	257,366,715

NOTES FROM THE OILFIELDS.

AMERICAN.

Gasoline Prices.—On the first of this month gasoline prices were advanced by two cents in the Texas retail trade, bringing the figure up to 18 cents per gallon. At the same time the prices of kerosene were correspondingly increased.

A Californian Gusher.—The Standard Oil Company has brought in a gusher in the Buena Vista Hills district of California, which is producing 12,000 barrels of oil daily. This is one of several large wells in the same district, yet none giving such a great yield.

Natural Gas for Train Lighting.—An innovation in train-lighting has recently been made by the Western Maryland Railroad, which taps the West Virginian gasfields. Two of its best trains are now lighted by natural gas, and if the experiment proves a success all the company's trains will be similarly illuminated.

Union Company's Plant Destroyed.—The plant of the Union Petroleum Company at Philadelphia was almost totally destroyed by fire a few days ago, the damage being put at \$200,000. Sixteen lubricating oil tanks each containing about 1,000 gallons were destroyed, but the firemen were fortunate to save twelve similar tanks containing benzine.

Celebrating the Discovery of Oil.—Elaborate preparations are being made for a celebration on August 27th of the anniversary of the bringing in of the Colonel Drake well at Titusville, Pa. It is expected to make the celebration an annual affair, and it is hoped that large numbers of prominent oil men will make the acquaintance of America's birthplace of its petroleum industry.

The Pure Oil Company's Earnings.—It is stated that the earnings of this company during the first half of the present year have amounted to \$1,160,000. It is announced that inasmuch as the company's contract with the Gulf Company expires next year (the Gulf Company now handling the Pure Oil Company's business), the Pure Oil Company intends to purchase two tank steamers for the purpose of transporting its own crude oil from Mexico.

Mexican New Wells.—In spite of the general internal unrest oil operations in the Mexican fields are being actively pursued. At Azatlan the Mexican Eagle Company has recently drilled in its No. 6 well, which is now producing at the rate of 15,000 barrels daily. This well is located near the company's famous Potrero del Llano gusher, which once produced 100,000 barrels daily, and now is a wonderful well. During July it yielded no less than 700,000 barrels although partly shut down.

ROUMANIAN.

Prices.—The prices of petroleum products remain stationary, there being little oil on the market. No forward contracts are being made.

State Revenue on Petroleum.—The State revenues on kerosene during the year ended March, 1913, amounted to 4,268,315 francs, showing an increase of 624,286 francs against the preceding year.

Transport.—The transport of petroleum products for home consumption is now resumed. The transport of crude oil is in full swing, and the stocks on the fields have commenced to decrease.

The General Situation.—The general situation has considerably improved under the influence of the conclusion of the war. The production, diminished owing to the mobilisation, has now renewed its normal course.

The Steaua-Romana's Production.—For the first eight days of the present month the Steaua-Romana's production averaged about 1,000 tons daily, of which 600 tons were produced in Campina and 185 tons at Polieiori.

Production.—The general production of crude oil is maintained at approximately 5,200 tons daily. The "Columbia" well continues to produce 550 tons daily. So far (until August 14th) this well has produced 354,000 tons of crude oil.

The Astra-Romana.—For the first ten days of the month this company's crude oil production amounted to 12,300 tons, of which 9,600 tons were produced from its properties in the Moreni-Stavropoleos field, and 1,600 tons in the Moreni-Bana region.

Vego's Refinery at Ploeshti.—The refinery of the Vego Company, at Ploeshti, is now being re-constructed and the capacity of the installation is being trebled. The kerosene obtained there by Edellann's method is becoming more popular, and quantities of it are now being exported to Germany. The Astra Company is now engaged on erecting an installation on Edellann's method

RUSSIAN.

A Profitable Figure.—The average official Government price for the first half-year is made out to be 36.664 copees.

The Krimskaya Spouter.—The Levantoff spouter at Krimskaya continues yielding petroleum of a specific gravity of 0.842.

The Surakhany Spouters.—The spouters of Nobel Bros., at Surakhany, continue yielding from 40,000 to 60,000 poods a day.

Krimskaya.—According to a telegram from Krimskaya on August 12th, fifteen tank wagons of crude oil have been loaded at the station.

Boring at Novobogatinsk.—The new borings at Novobogatinsk are considered very promising. There is rich shallow oil of a specific gravity of 0.880, and containing 0.2 per cent. of sulphur. The oil appears on the surface in abundant quantities.

News from Emba.—Great activity continues in the Emba district. The Emba Company is energetically pursuing the building of the refinery. The reservoirs are full of oil and new loadings are expected to soon leave for the Ragsine refineries at Zaroslaw and also for Baku.

New Tank Storages.—There is great activity in Russia with regard to building tank storages and making arrangements for selling lamp oil. A number of new distributing stations have been built by the firm Mazout (now acquired by the "Shell" Company) and also by Messrs. Nobel Bros.

A Grosny Boom.—In the Grosny district there is quite a big boom in pegging out claims for the exploration of petroleum. During 1910, 1911 and 1912, 11,930 new claims have been made, but owing to the discovery of a new oilfield, for the first half of the present year no less than 9,842 new claims have been made.

New Petroleum Sources in the Kuban Province.—New petroleum deposits have been discovered in the Kaluschkiti district, where the Vladikavkaz railway has acquired some plots from the Kaluschka Company for the sum of 43,000 roubles and half copeck per pood royalty. The estimated cost of boring is fixed at 6,650,000 roubles.

The Standard and Russian Oil.—There is quite a large movement at Batoum by the Standard Oil Company, as owing to the difficulty of obtaining oil from Roumania, the Standard Company comes in as a large purchaser of Russian oil. This company has bought its oil in advance at 66 copecks per pood, refined, f.o.b. Batoum.

Activity at Batoum.—The following steamers have taken in cargoes of oil at Batoum since August 1st:—"Clam" for Avonmouth, "Czar Nicolai II." for Hamburg, "Hyrcania" for London, "Kremlin" for Barcelona, and the "Tiflis" for Rouen. In addition to steamers carrying oil in bulk, more than 200,000 cases of oil have been sent to Constantinople and other Turkish ports.

Residuals in Moscow.—Owing to the strike in Baku the price for residuals in Moscow has risen to 72 copecks, but there have been no large buyers, as they prefer to wait until autumn, when the question as to whether they will buy coal or liquid fuel will be decided. This year, owing to the abnormal prices, the purchase for the whole year (as is generally the case) was not made, but only for two, three or four months.

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THE ALBERT PROVINCE SYNDICATE, LTD.

Registered on August 18th, by Messrs. Watson & Watson, 16, Finsbury Circus, E.C. Capital £100, in £1 shares. Objects: To purchase or otherwise acquire any petroleum shale property, and to sink wells, make borings and otherwise search for and render suitable for trade petroleum, and also to carry on the business of distillers in and refiners of petroleum and other mineral oils of every description. Private company.—Directors (to number not less than two) are to be appointed by signatories. Signatories: John Mitzakis, 20, Copthall Avenue, E.C., and Thomas Watson, 16, Finsbury Circus, E.C. Registered office: 20, Copthall Avenue, E.C.

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Registered on August 16th, by Messrs. A. Veasey & Co., 8, Queen Street, E.C. Capital, £13,000 (12,000 ordinary shares of £1 and 20,000 deferred shares of 1s. each. Objects: To enter into an agreement with Lionel Henry Mander and Charles Alfred Chaplin, trading as Mander, Chaplin & Co., to purchase or otherwise acquire, deal in, and turn to account all kinds of oilfields, and to explore, work and examine any land supposed to contain oil. Private company. First directors are to number two. Signatories: W. P. Charles, 41, Beulah Road, Thornton Heath, Surrey, and F. E. Parmenter, 48, Upper Richmond Road, Barnes, S.W., one share each.

THE COMMERCIAL VALUE OF ARBANASH (ROUMANIA) PETROLEUM.

IN view of the great development the oilfields of Arbanash (Roumania) are at present undergoing, Dr. Rosenfeld has undertaken a complete study of Arbanash crude oil as regards the products to be obtained from it and their commercial value. The oil analysed was of specific gravity 0.8295. It was submitted first to an ordinary distillation up to 280° C., and the residuals then re-distilled with superheated steam. The following products were obtained:—

	Per cent.	Sp. gr.	Value in francs per 100 kilos of crude oil.
Light benzine ...	2.0	0.725	9.58
Heavy " ...	7.5	0.754	1.50
Kerosene ...	49.0	0.806	3.43
Gas oil ...	9.3	—	0.47
Mineral oil ...	19.1	—	1.15
Paraffin... ..	4.1	—	2.06
Asphalt... ..	4.4	—	0.17

The total value of products obtained amounts to 9.36 francs, the total costs of raw material, refining, etc., being 3.08 francs, the profits made by refining Arbanash oil amount to 62.80 francs per ton.

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THE OILFIELDS OF BURMA.

Their History and Development.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

Reprinted from
"Memoirs of the
Geological Survey
of India."
Volume XL, Part I.

(Continued from page 170.)

ONE of the highest oil-sands worked is one found on both flanks of the anticline forming two narrow petroliferous belts along the western and eastern margins of the oilfield in the neighbourhood of the Twingon Reserve. This sand, usually met with at a depth of about 200 ft., has yielded a heavy oil of specific gravity about .92—.95 practically free from paraffin and valuable for lubricating purposes. The yield from each well is very small and would not pay were the oil of the usual density. It is found rather more plentifully on the east than on the west, and the Burma Oil Company have pumped it from about 20 drilled holes by means of small central power stations. On the west its exploitation is confined to Burmese hand-dug wells. This oil-sand, or its horizon, crops out nearer the centre of the anticline. Its high density may be due to the exposure of the oil-sand to the atmosphere and the evaporation of the lighter constituents. The precise significance of the absence of paraffin, which is so important a constituent of all the other oils, is unknown, unless it is assumed that the loss of the lighter hydrocarbons has reduced the capacity of the general mixture for holding in solution the solid members, and caused

Committee, consider any pool of oil (fig. 1) so held up by water, and assume that the "catchment" areas are approximately on a level with the surface of the ground above the oil pool, and that the dividing line between the oil and water (A—A) is 1,000 ft. below the surface. We have then a head of water 1,000 ft. high, and as this is capable of balancing a column of oil of specific gravity .833 some 1,200 ft. high, any bore tapping this sand should produce a well spouting to the height of 1,200 ft. above A—A, *i.e.*, 200 ft. above the ground. Hydrostatic pressure alone, therefore, is quite capable of producing the prolific spouting wells met with at Yenangyaung. The height to which wells spout in any of the Burma fields is well within the theoretical height, and what requires explanation is, not why the oil spouts so high, but why it does not spout higher. That wells nearer the crest are more liable to spout, or spout higher, than those further removed is due chiefly to the difference in specific gravity. This difference appears inadequately small when comparing the oils from the two receiving tanks, but if the great quantities of gas which escape into the air, more especially from the crest well, could be included in the specific gravity determination, the difference would be considerable.

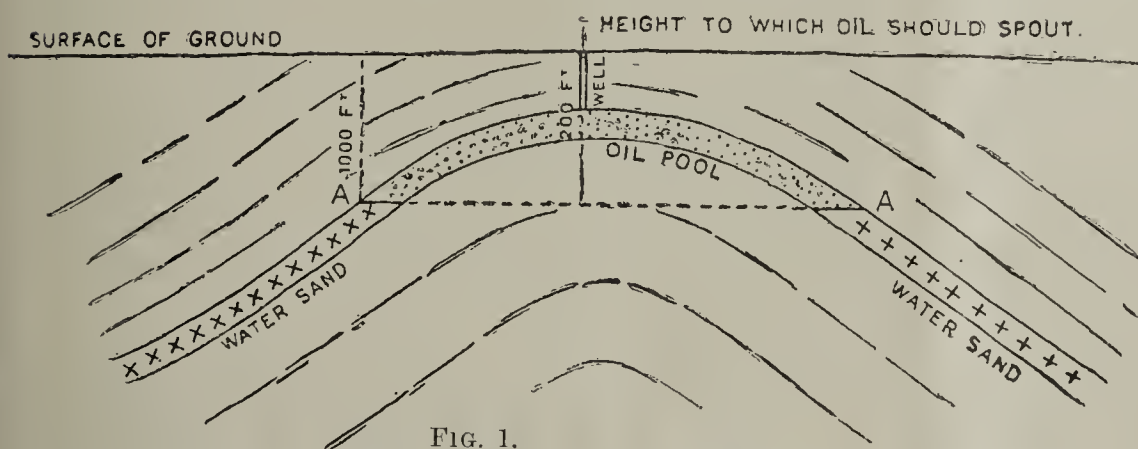


FIG. 1.

these to separate out somewhere in the sand. The Burma Oil Company at one time worked the so-called "Twinza oil-sand" or "Burmese oil-sand," *i.e.*, a sand lying somewhere between 250 and 400 ft. in several wells, but this and all shallower sands are now almost entirely relegated to the Burmans, who continue to work them in a half-hearted manner here and there. A good deal might have been done with these and other despised sands by means of wire ropes and a central pumping station before the competitive frenzy with which the field is now being exploited. At the present day no sand less than 900 or 1,000 ft. deep within the Twingon Reserve is considered worth attention by the companies.

As mentioned above, the oil has been forced up into the anticlinal arch by water which we assume has gained access to porous rocks from "catchment" areas on each side. To follow out a demonstration suggested to me by Mr. E. A. Molony, I.C.S., of the Oilfields

Below a certain line also along the flank of the anticline water usually accompanies the oil, and this would naturally affect the ability of a well to spout, as also would variation in porosity in some places. It is not impossible that the pressure may have been locally preserved through parts of oil-sands becoming isolated by the deposition of impervious carbonate of lime in the sand-rock. In such a case it might be said that the pressure in a well was immediately due to gas, but its origin was none the less hydrostatic. In fact, the *immediate* cause of the flowing of most of the "spouters" is, no doubt, mostly gas pressure, but the point I wish to emphasise is the fact that the gas pressure itself is but a reflex of an existent or, at any rate, *quondam* hydrostatic pressure. If the pressure were due to the formation of gas within completely isolated pockets or lenticular beds of sand after such isolation had taken place, we should expect to find exceptions to the rule that oil is found beneath the centre of the anticline only and never far down its flanks, nor should we easily understand why the boundary between the oil and water in each sand is so constant in level all along the flank of the anticline, nor why its level in the other flank is approximately the same. We furthermore understand why spouting wells are to be expected from the deeper horizons, since the deeper we go the greater the difference in weight between the columns of water and oil, and the greater

the upward pressure on the latter. No well here less than 600 ft. deep has been known to spout or flow. The fact that water does not spout above the ground at Yenangyaung shows that the catchment area is not higher than the surface of the oilfield.

If we consider all the other affecting agencies we find ample explanation of the occasional great difference in yield from the same sand in adjacent wells, the rapid decline of some wells, the failure of others to spout at all, and other exceptions to general laws. The collection of the oil in the anticlines, and especially its symmetrical disposition in the same, are proofs that oil-sands stretch over the whole or greater part of the dome, although they vary too much in level, thickness and number of bifurcations to be serially recognised.

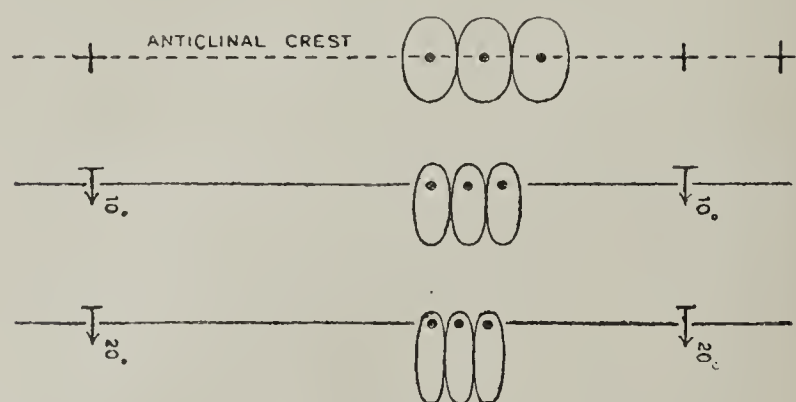


FIG. 2.

If the porosity of the oil-sand were a uniformly positive quantity over the whole of its extent, and remained so during the movement of the oil, it would only be necessary to drill one well at the centre of the dome, when all the oil would be driven up by water and would spout until practically exhausted, the height to which it spouted decreasing slightly as the head of water lessened. The cause which prevents this is defective porosity or resistance to flow. It is in all probability lateral variation in porosity more than anything else which is accountable for the anomalies in yield in this and other fields. The marked impurity of the sediments has already been noticed, and the proportion of clay or calcareous matter in a sand must vary very much from point to point, the resistance to the flow of oil varying correspondingly. Take two

wells in equally favourable positions with regard to the crest. One has struck the oil-sand in a very porous part, and the flow of oil from the immediate neighbourhood is so rapid that the well spouts. The pressure is rapidly relieved, however, and after the especially porous portion has been drained the yield will have sunk equally rapidly. The second well taps a portion of the same sand, which by reason of a larger proportion of clay or calcareous matter, or being finer in texture, is less porous. The yield is much less, but much steadier, while the decline is slower. If the total output from each well could be compared, instead of the yield during the first twenty-four hours, the inequality would be very much less.

Again, when the yield is so small that it does not pay to work a well, another is sunk into the same sand, it may be, farther down the flank of the anticline: nevertheless, in many cases it flows in its turn, proving that the decline of the first well was due to the failure of the oil to continue flowing at a sufficient speed. Speaking generally, I think that the causes of the abnormally rapid decline in some of the wells before the competitive struggle, and the unexpected absence or poverty of oil experienced in several wells, were principally defective porosity, or, what is but an extreme case of this, the splitting of the oil-sand and dove-tailing into argillaceous material.

The area which can be drained by a well must naturally be a variable quantity, depending among other things upon the pressure in the oil-sand, the porosity of the latter and its depth below the surface, irregularities in the strata, the position of the well with regard to the anticlinal crest, and the proportion between the lighter hydrocarbons and solid paraffins. For practical purposes it may be taken to be approximately the area of a circle of 150 ft. radius: the shape is not a circle, however, even on the crest, but an ellipse or pear-shaped area where the sand is homogeneous. Variation in porosity will account also for anomalous variation in the size of these areas, and any irregularity in their shape. Such considerations have a practical bearing upon the best manner of locating wells. Irregularities omitted, along any line parallel to the anticlinal axis the wells should be placed closer together than along a line normal to this axis: the farther the parallel line from the axis, the closer the wells. The diagram given above will best illustrate the principle.

(To be continued.)

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Petroleum and Natural Gas in Oklahoma.

By Mr. C. N. GOULD.

(Concluded from page 184.)

Muskogee County.—In Muskogee County is located the noted Muskogee oil pool, also producing pools near Haskell, Wainwright, and Council Hill. Considerable part of southern Muskogee County has not yet been drilled.

Wagoner County.—Oil and gas have been found in Wagoner County, near Choska, Coweta, and along Adams Creek, east of Broken Arrow. Practically all the county is good prospective oil territory, but very little of it has been drilled.

Mayes County.—A small amount of oil and gas has been found in the western part of Mayes County in the region west and north of Pryor Creek. All that section of the county lying west of the main line of the Missouri, Kansas, and Texas Railroad is a part of the territory within which oil and gas may be found, and, if found, drilling will be inexpensive on account of the fact that the wells will not exceed 300 to 500 ft. in depth.

Craig County.—Western Craig County lies within the territory in which oil and gas may be expected. The drilling will not be expensive because of the shallow depth of the wells. Oil and gas have been found near Catale and Centralia.

Kay County.—The principal oil pool so far developed in Kay County is the Ponca City pool, which, during the last year, has produced a large amount of oil and gas. Both oil and gas are known to occur near Kildare and Newkirk, also large amounts of gas in the western part of the county, near Blackwell. There need be no surprise if extensive drilling anywhere in Kay County reveals the presence of oil and gas.

Noble County.—Western Noble County lies in the Red beds and for that reason the chances for finding oil and gas are not so good as in eastern townships, which, when drilled, should show considerable amounts of these products.

Payne County.—Eastern Payne County doubtless contains oil and gas. The famous Cushing Field, in Creek County, lies just across the line, and the north-east corner of the county is but a few miles from Cleveland, one of the most prolific fields in the state. Western Payne County lies within the region of the Red beds, where the chances for finding these substances are not so good.

Lincoln County.—Eastern Lincoln County is fairly good prospective oil and gas territory. Western Lincoln County lies in the Red beds area. The chances are not good for finding oil and gas in paying quantities in western Lincoln County.

Okfuskee County.—Practically all of Okfuskee County may be considered good prospective oil and gas territory. A small amount of oil has been produced in the north-eastern part of the county, and very little drilling has been done elsewhere.

Seminole County.—Eastern Seminole County lies within the region within which oil and gas may be

expected. In fact, these products have been found at Wewoka, the county seat. Very little drilling has been done, and there is no means of knowing the extent of the deposits.

Pottawatomie County.—The chances for finding oil and gas in the greater part of this county are not good, because of the fact that practically the entire county lies within the Red beds area. The most likely place to prospect is in the vicinity of Keokuk Falls, in the north-eastern part of the county.

Pontotoc County.—Northern Pontotoc County lies within the region occupied by carboniferous rocks. Small amounts of gas have been found near Ada and Roff, and there are considerable deposits of asphalt near Ada. It is useless to attempt to find oil or gas in quantity in the southern part of the county, which lies within the region of the Arbuckle Mountains.

Hughes County.—All of Hughes County lies within the area occupied by Pennsylvanian rocks, and the chances are fairly good for finding oil and gas anywhere in the county. Very little drilling has been done, so that at the present time there is no means of knowing the exact location of possible productive pools.

Coal County.—Coal County lies within the area occupied by the Pennsylvanian rocks. Gas has been found in the north-eastern part of the county, and it is very probable that drilling will reveal the presence of large amounts of oil and gas.

Pittsburg County.—Northern Pittsburg County lies within the region in which we may expect to find oil and gas. Several deep wells have been put down, and small amounts of gas have been secured. It is quite probable that more extensive drilling would reveal a larger amount. Southern Pittsburg County lies in the Ouachita Mountains, where it is practically useless to attempt to find oil or gas.

Haskell County.—This county lies in the region of Pennsylvanian rocks. There are several anticlinal folds crossing the county from north-east to south-west. Gas has been found near Kinta, and it is probable that considerable deposits of both oil and gas will eventually come to light.

Latimer County.—Southern Latimer County lies within the area occupied by the Ouachita Mountains. Northern Latimer County lies within the area of Pennsylvanian rocks. Gas has been found near Red Oak, and other deposits will probably be found in the same general vicinity.

LeFlore County.—The southern part of this county lies in the Ouachita Mountain area; the northern half of the county in the region of the Pennsylvanian rocks. There are several anticlinal folds which should contain oil or gas. Prolific gas wells have been discovered near Poteau, and are supplying that city with fuel. Other good wells have been found near Spiro. There is little doubt that more extensive drilling along the anticlines will reveal the presence of other deposits of gas, and probably of oil also.

Sequoyah County.—Southern Sequoyah County lies within the region of Pennsylvanian rocks, which should eventually yield considerable deposits of oil and gas. Gas has been found at Vian.

CONCLUSION.

These brief statements will indicate something of the future possibilities of the oilfield. Judging from all available data it may be inferred that, at the present time not one fourth of the prospective oil and gas territory has been carefully drilled, and not one tenth of the oil has yet been taken from the ground. A considerable amount of prospecting has been done which has yielded no results, largely because of the fact that poor judgment was exercised in locating the wells.

With regard to the life of the field we can only conjecture. Relatively few of the wells of the state have yet ceased to produce. Many of the wells drilled ten years ago are still yielding a sufficient amount of oil to be profitable to operate. There is, at present, no definite way of estimating the ultimate life of the wells, but taking into account the structure of the sand, the quality of the oil, and the life of the wells in the older fields of the United States, where oil is produced under similar conditions, we need not be surprised if many of the wells now operating continue to produce oil for the next twenty-five, or even fifty years.

Additional wells are constantly being drilled in the developed fields, and new fields are constantly coming to light. It may confidently be predicted that the development of new fields will continue in Oklahoma for the next fifty years, and that they will continue to produce for another fifty years.

TO STUDY PETROLEUM AND ITS PRODUCTS.

An American Society Formed.

THE American Petroleum Society has been formed at Pittsburg, Pa., to promote the study of petroleum and to place petroleum science on a par with other economic problems of the country. One of the principal objects of the organisation will be to secure a lower cost of gasoline.

A committee was appointed to prepare plans for permanent organisation. The committee is composed of Dr. Irving C. Allen, petroleum chemist, United States Bureau of Mines, Pittsburg; E. B. Rich, Parkersburg, W. Va.; C. D. Chamberlin, Cleveland, Oh.; W. C. Platt, Cleveland, Oh., and Prof. Edgar Marburg, testing society representative, Philadelphia, Pa.

At the meeting Dr. Allen read a circular letter sent out to twenty-four representative concerns of the United States. The letter stated:

"A study of petroleum and its products has never been comprehensively or thoroughly made within the United States.

"Since each year crude petroleum and gases are produced in the United States having a value in excess of \$200,000,000, it is most important that a thorough study of these materials be undertaken.

"This study should include the origin, geology, statistics, conservation, drilling methods, transportation, storage, refining and uses of crude petroleum, and a critical and scientific description of petroleum products of all kinds, including gases and bitumens."

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DEVELOPMENTS IN THE OILFIELDS.

LATEST PROGRESS REPORTS OF ENGLISH COMPANIES.

Roumanian Consolidated Oilfields, Ltd.—Production for week ended 16th inst., 1,663 tons.

Emba-Caspian Oil Company, Ltd.—Well No. 6 giving naphtha depth 910 ft.

Balkan Petroleum Syndicate, Ltd.—Report dated August 16th :—"Well No. 1 drilled 450 ; cased 447."

Maisels Petroleum Trust, Ltd.—Cable : "Well No. 6 Bordeni, Saturday morning, very strong eruption for four hours ; eruption 40 tons ; shaft being cleaned."

Maikop Premier Oil Syndicate, Ltd.—Progress report by telegram dated Apsheronkaya, 18th inst. : "(New) well No. 5, 50 ft."

Anglo-Maikop Corporation, Ltd.—Telegram dated 17th inst. : Well No. 1, depth 925 ft. No. 2, re-erecting derrick. Well No. 3, commence drilling to-day.

Oilfields of Mexico.—Well No. 19, 4,405 ft. Well No. 31, 505 ft. Well No. 32, 708 ft. Well No. 33, there has been no change. Production last week, 2,775 barrels.

Traian Roumanian Oil Company, Ltd.—Production of crude oil for the week ended 16th inst., 397 tons. Still unable to clean wells owing to shortage of men.

Lagunitos Oil Company, Ltd.—Production first half August, 1,400 tons. Well No. 73, 1,610 ft. ; No. 76, 826 ft. ; No. 78, 703 ft. ; No. 79, 480 ft. ; 68 finished, depth 260 ft. Rig erected for No. 80.

Maikop Pipeline and Transport Company, Ltd.—Received for pumping (week ended 16th instant) : Ekaterinodar line, 54,278 poods (875 tons) ; Krimskaya line, 61,455 poods (991 tons).

Santa Maria of California.—Cable received from California states that a \$75,000 contract for paving has been awarded by Redwood City, California, to the company's subsidiary trading company.

Maikop Midland Oilfields, Ltd.—Well No. 1, cleaning plug. Well No. 2, plugged again. Well No. 4, depth 1,455 ft. Drilling very difficult and dangerous owing to periodical flows ; expect reach light oil source within 30 ft. Well No. 5, depth 1,409 ft.

Levanovskoe Petroleum Company, Ltd.—Production (week ended 16th inst.), 5,500 poods. Well No. 1,

producing as before between casing. Well No. 2, depth 1,804 ft. Under-reaming approaching third oil source. Well No. 3, depth 734 ft.

Premier Oil and Pipeline Company, Ltd.—Cable received August 19th states : "Walisko increased from 10 to 30 tons ; Henry giving 10 ; Wisla 15 ; Erdoelwerke No. 7, 15 tons ; altogether an increase of 60 tons daily."

Baku-Russian Petroleum Company, Ltd.—After a stoppage of two days on the Balakhany properties work has now been resumed under normal conditions. On the Bibi-Eybat properties an early settlement was effected with the men and work continued without interruption.

Algerian Oilfields, Ltd.—Latest reports received from Abd'r Rahim state that the drilling has passed through the marl formation, and is now in sand-rock and limestone. Strong gases have been encountered, together with traces of oil, which is considered very satisfactory. A column of 9-in. casing is now being inserted, after which drilling will be continued. The present depth is 2,778 ft.

Kern River Oilfields of California, Ltd.—Subsidiary company (St. Helens Petroleum Company) reports by cable : "Santa Maria—Well No. 1, depth 2,275 ft. ; increase 100 ft. Formation, shale. Gas show at 2,200 ft. to 2,250 ft. Fullerton—Well No. 2, depth 1,450 ft. ; increase, 440 ft. Drilling going well. Midway—Well No. 1, still causing trouble. Midway—Well No. 2, cleaned to bottom of well. McLeod lease—Well No. 1, depth 1,250 ft. ; increase, 650 ft. Drilling going well."

Tampico-Panuco.—Weekly cable, Tampico-Panuco Oilfields, Ltd., and its subsidiary, Chijoles Oil :—Cable dated 20th instant : "Well No. 1, at Arena, belonging to Tampico-Panuco Oilfields, Ltd., has reached a depth of 1,720 ft. Good show of gas. Well No. 1, at Tamboyöche, finished under-reaming and set casing. As to Chijoles Oil, Ltd., wells Nos. 1 and 2, at Chijoles, producing steadily at the rate of about 500 barrels per day ; packers, which will be inserted to increase the output, have arrived for these two wells. Well No. 3, depth 1,500 ft. Have already commenced filling tanks from open reservoirs."

European Oilfields Corporation.—An extraordinary general meeting was held on Thursday, at the offices, 48, Cannon Street, E.C., to consider and, if thought fit, confirm a resolution providing for an alteration in the articles of association. The resolution for confirmation was formally moved by Mr. A. H. Wright, and carried.

The American Oil Market.

Saturday, August 9th, 1913.

WITH no further variation to be noted in the crude situation interest in the week's developments is chiefly concerned in the report of July field operations, says the *Oil Paint and Drug Reporter*. The general expectation of the trade that the new production last month would be light has been confirmed, although the completions for the period were almost up to those during June. In the high-grade fields, including Pennsylvania, West Virginia, Ohio, Indiana, Kentucky and Illinois, the new wells finished last month amounted to 1,082, of which number 250 were gas wells or dry holes. The new daily production reached 10,142 barrels, making the average per oil well for the month 12.32 barrels. At the close of July there were 1,640 wells drilling and rigged up. The failure to find any noteworthy addition to the producing territory in high-grade fields has been regarded as exerting somewhat of a check upon further operations, particularly those involving the more hazardous developments of the large number of test wells that have been drilled so far this year; none is said to have resulted in the opening of a new pool capable of producing 500 barrels a day.

Roane county is furnishing the greatest number of completions in West Virginia. One of the week's wells came in a 50-barrel producer, which is much above the average for the county. A well good for 20 barrels a day from the Berea formation, a little east of production, was credited to Brook county. Promise of the producing well was also reported in Doddridge county, two miles south-east of the defined limits in a section that had not been well tested. A feature of South-eastern Ohio developments for the week was the reported strike of a well showing for 150 barrels in Washington township. Belmont county, which may mean the opening of a new Berea grit pool there. Several 50-barrel wells were reported in Perry and Hocking counties. In the new pool, near Union Furnace, Star township, Hocking county, quite a little new work is under way, having more or less importance as to location. The Crooksville development of Harrison township, Perry county, is also attracting attention. About 15 wells are said to be in the course of drilling or under way in the district. It is deep drilling territory, and the cost of bringing in a well is placed at about \$10,000.

Interest in the week's review of the Lima fields centres in a reported strike of better than 200 barrels a day three miles west of Shelburn, Indiana. Three other wells in the vicinity of the late strike were said to be good for not better than 15 barrels each. The bringing in of this exceptional producer has attracted a large number of men to the district, and an active leasing campaign at fancy prices was soon under way.

This well is located about four miles east of other production in territory close to the Wabash River. There has been a rush of operators to the scene and all the promising tracks were soon under lease. The section promises to encourage a lively drilling campaign. The continued dry weather operates as more or less of a handicap to Kentucky drilling, and the general situation there is rather quiet. Morgan county, however, continues to attract many new operators and there is promise of considerable new drilling. Morgan county furnished the feature of July operations in Kentucky.

A well yielding 10 barrels a day was treated to a shot and developed an output of 100 barrels. A 40-barrel well on Stillwell Creek, Wolf county, is expected to stimulate operations in that district.

The Cushing pool is probably the interesting development of the mid-continent situation. More good wells are being drilled at this time in the pool than at any other time in its history, and the production is holding steadily in excess of 21,000 barrels a day. One of the late completions was reported good for 1,100 barrels, while another placed 800 barrels to its credit in the first 24 hours. The Osage has contributed some good producers, although not much work seems to be in progress in the district. Fair wells have also been found in the Matoka pools south of Bartlesville.

Refined Products.

Generally, quiet conditions have characterised the local market for illuminating oils over the interval, both with respect to home and foreign account. Domestic requirements at this season are at their lightest and nothing in the market seems to encourage business for future wants. The continued absence of charter engagements for forward shipment is the occasion of comment in the export market. This condition is attributed to the difficulty of closing bookings at prevailing charter rates, which are regarded by exporters as beyond practical limits. A new basis of charter negotiations is said to have been employed by a leading concern, which is expected to result in the consummation of several engagements within a few days.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. August 9.	1913. August 9.
Pennsylvania	\$1.60	\$2.50
North Lima	1.04	1.39
South Lima	0.99	1.34
Indiana	0.99	1.34
Illinois, above 30 degrees	0.87	1.30
Kansas and Oklahoma	0.70	0.98
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex	0.75	0.90
Californian, Coalinga light	0.65	0.60
" Kern River heavy	0.35	0.35
CANADIAN OIL	1.44	1.79

REFINED—FOR EXPORT.

In cents.	Week ended August 9.	
	S.W. 110 test.	W.W. 150 test.
Bulk, New York ... per gal.	5.00	6.00
Barrels, New York, cargo	8.70	9.70
Barrels, Philadelphia	8.70	9.70
Cases, New York	11.00	12.00
Cases, Philadelphia	11.00	12.00

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000	\$11.15
1,000 to 3,000	11.25

REFINED—JOBGING LOTS.

In barrels, pkgs. included.	
130 fire test, S.W.	12
150 fire test, W.W.	12½
From tank wagons	9

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29½

TOTAL EXPORTS.

	Current week. Gallons.	Since Jan. 1, 1913. Gallons.	Since Jan. 1, 1912. Gallons.
Crude	2,764,500	87,586,549	83,260,905
Refined	10,122,530	520,564,702	536,525,960
Naphtha	1,990,645	61,851,365	90,379,385
Gas oil	1,145,685	20,710,950	35,885,100
Fuel oil... ..	8,553,650	84,084,610	42,216,340

WORTHINGTON & BOLER,

LIVERPOOL, LONDON & GLASGOW.

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

August 22nd, 1913.

There are no alterations in the market prices of Refined Petroleum, which remain as follows:—Russian, 8 $\frac{3}{4}$ d.; American, 8 $\frac{1}{2}$ d.; American Water White, 9 $\frac{1}{2}$ d.; Roumanian, 8d.; Galician, 8 $\frac{1}{4}$ d.

LUBRICATING OILS

are still unchanged, the official quotations being for:—

No. 1 Russian, spot and forward, £12. 2s. 6d.

American pale, from £10. 7s. 6d.

American dark, from £12. 2s. 6d.

American filtered cylinder, from £14. 12s. 6d.

FUEL OIL

is quoted 75s. per ton, in bulk, ex wharf, and grease-making oil, 80s.

MOTOR SPIRIT.

The best quality is quoted 1s. 9d., and the second quality 1s. 7d. per gallon, retail, in London.

TURPENTINE.

The American Turpentine market has shown considerable excitement the last two days and prices have risen, business being quite bright. A large business has been done in forward deliveries, considerable parcels having been sold for January/April next at 31s. 9d.; the spot price is 30s. 3d.; September/December, 30s. 9d.

LIVERPOOL.

August 22nd.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8 $\frac{3}{4}$ d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, July 27th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	6	0	2	per case.
White Rose Brand, 150 deg., "	5	12	2	"
Chester Brand, 75 deg., Abel	5	2	2	"
Devoe's Imp. Brilliant, 76 deg., Abel	5	0	2	"
Monkey Brand, 125 deg., American	4	14	2	"
Tiger Brand in tins, 125 deg., American	4	14	2	"
White Camelia Brand in tins, 125 deg.	4	5	0	per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	4	5	0	"
Elephant Brand, 125 deg. (bulk without tins)	3	11	0	per 8 I. gal.
Camel Brand, 125 deg.	4	5	0	per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	3	13	0
Rising Sun Brand, New Tins, per pair	4	7	0
Bull Brand, Bulk, Loose, per unit	3	11	0
Bull Brand, New Tins, per pair	4	0	6
Swan Brand, Bulk, Loose, per unit	3	2	6
Swan Brand, New Tins, per pair	3	12	6
Anchor Tins, per pair	4	8	0
Shell 150 deg. cases, per case	5	8	0
Anchor cases, per case	5	0	0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Kerosene Oil "Waterlily," per case of two tins	5	4	0
" Firefly, per case of two tins	4	15	0
" Chukker, per two tins	4	5	0
" " per 8 gallons	3	11	0
" Victoria, per two tins	3	11	6
" " per 8 gallons	3	1	6
Burmah Wax, per pound, 1st quality	0	4	0
" " 2nd quality	0	3	0
" Candles, per pound	0	4	0

AMERICA.

NEW YORK, August 21st.

Oklahoma crude has been advanced to \$1.03 per barrel. Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, August 21st.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, August 20th.

The petroleum prices have remained firm. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA. BAKU, August 20th.

The petroleum market is without change. Crude oil is quoted at 48–48 $\frac{1}{2}$ copecs per pood spot. Mazout, 46–46 $\frac{1}{2}$ copecs. Kerosene, 62–63 copecs.

ROUMANIA. August 19th.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Francs.
Bushtenari	7.30–7.40
Moreni	6.20–6.80
Tzintea	4.50–5.00
Policiori	5.00
Bana, 0.850	8.50–9.00
Paraffin	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	28.00–30.00
" sp. gr. 0.715–0.720, f.o.b.	25.00–26.00
" sp. gr. 0.730–0.740, f.o.b.	19.00–20.00
" sp. gr. 0.740–0.755, f.o.b.	17.00–18.00
Residuals, f.o.b. Constanza	6.50
Gas Oil	8.50

AUSTRIA. August 19th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 33 kronen at Oderberg. Benzine, 710/720, 45 kronen; benzine, 740/50, 34 kronen; 770/80, 22 kronen at Oderberg. Gas oil, 8.00 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, E.C., report under date August 21st as follows:—

There has been more enquiry during the past week. Prices are unchanged at last week's rates, viz.:—

1c	18 $\frac{3}{4}$ × 14	124 sheets	110 lbs.	13/6 per box.
1c	20 × 10	225 "	156 "	19/3 "

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

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FOR THE WEEK ENDED AUGUST 18TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
August. LONDON—				
12	Woollett, Ainey & Co.	... Lub.	120	New York
12	Vacuum Oil Co.	... Lub. Oil	12,940	"
		and Gr.		
12	American Export Co.	... Lub.	50	"
12	Mercantile Lighterage Co....	...	2,480	Philadel.
12	Port Authority	...	290	Hamburg
13	"	...	2,240	"
13	Hanseatic Maritime Agency	...	300	Bremen
13	Asiatic Petroleum Co.	... Fuel	220,500	P. Samboe
13	Bowring Petroleum Co.	... Lub.	6,530	Philadel.
14	G. W. Sheldon & Co.	... Lub. Gr.	400	"
14	Litchfield & Soundy	... Lub.	6,120	Hamburg
14	Port Authority	...	280	"
14	"	...	840	Antwerp
14	Leach & Co.	...	360	Ghent
15	J. Spurling	... Lub. Gr.	280	New York
15	British Petroleum Co.	... Lamp	1,899,000	Batoum
15	Anglo-American Oil Co.	... Gas	810,810	New York
15	"	... Fuel	132,550	"
15	Port Authority	... Lub.	120	Hamburg
15	"	...	200	"
16	W. Coast Oilfields Co.	... Crude	1,000	"
16	"	... Resid.	600	"
16	Vacuum Oil Co.	... Lub.	600	"
16	Port Authority	...	2,800	"
16	Bowring Petroleum Co.	...	5,970	Philadel.
16	J. W. Cook & Co.	...	9,280	"
16	Asiatic Petroleum Co.	... Benzine	5,000	Rotterdam
18	Leach & Co.	... Lub.	40	Ghent
18	Anglo-American Oil Co.	... Fuel	278,800	Kustendje
18	"	... Lub.	160	Bordeaux
18	"	...	16,000	New York
18	"	... Lub. Gr.	120	"
18	A. Brown & Co.	... Lub.	2,000	"
18	F. Chiesman & Co.	...	19,360	"
18	Langley, Smith & Co.	...	8,050	"

LIVERPOOL—

12	Meade-King, Robinson & Co.	...	8,200	N. Orleans
12	"	...	19,600	Baltimore
12	"	... Lub. Gr.	7,800	"
12	A. Hopps & Sons	... Lub.	2,600	"
12	Burnaby & Chantrell	... Lub. Gr.	2,490	"
12	"	... M. Colza	2,770	"
12	"	... Lub. Gr.	760	New York
12	W. B. Dick & Co.	... Lub.	5,000	"
12	"	...	11,480	Philadel.
12	Bramwell Fern & Co.	...	1,990	"
13	Anglo-American Oil Co.	... Lub.	20,000	Baltimore
13	Liverpool Storage Co.	...	2,600	"
13	Vacuum Oil Co.	...	15,720	New York
13	"	... Lub. Gr.	3,600	"
13	"	... Lub.	4,120	"
14	Cunard Steamship Co.	...	1,200	"
14	Anglo-American Oil Co.	...	42,600	"
14	Burnaby & Chantrell	... Lub. Gr.	310	Hamburg
14	Pickford's	... Lub. Oil	430	"
		and Paste		
15	Dee Oil Co.	... Lub.	2,000	Ghent
15	White Star Line	... Lub. Gr.	1,250	New York
15	Bramwell, Fern & Co.	... Lub. Resid	2,710	Quebec
18	Valvoline Oil Co.	... Lub.	15,580	New York
18	"	... Lub. Gr.	210	"
18	Bowring Petroleum Co.	... Lub.	2,180	"
18	Langley, Smith & Co.	...	4,000	"
18	C. W. Field	...	210	Antwerp

BRISTOL—

12	First Anglo-Russian Oil Co.	...	280	Hamburg
14	Heaton & Co.	...	130	"
14	H. Matthews & Co.	... Lub. Gr.	240	"
14	H. Pritchard & Co.	...	120	"
14	Colthurst & Harding	... Lub.	360	"
14	J. R. Bush	...	19,040	New York
15	Pickford's	... Lub. Oil	550	Hamburg
		and Gr.		
15	W. G. Clarke	... Lub.	500	Antwerp
15	H. Matthews & Co.	...	270	"
18	C. Hill & Sons	...	1,800	New York
18	H. Pritchard & Co.	...	4,200	"

CARDIFF—

11	Furness, Withy & Co.	...	200	Rotterdam
12	"	... Lub. Oil	1,910	Antwerp
		and Gr.		

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
August. GLOUCESTER—				
14	Bristol Steam Navig. Co.	... Lub.	1,960	Hamburg
	GOOLE—			
9	Goole Steamship Co.	...	140	"
	GRIMSBY—			
12	J. Sutcliffe & Son	...	800	Antwerp
	HARWICH—			
12	Great Eastern Railway	...	300	"
13	"	...	40	Hamburg
14	"	...	500	Antwerp
15	"	...	40	"
	HULL—			
12	Wilson's & N. E. Railway	...	160	Hamburg
12	"	...	1,320	Antwerp
13	W. Gilyott & Co.	...	10,600	New York
13	T. Wilson, Sons & Co.	...	160	Christiania
14	"	...	440	Riga
14	W. Gilyott & Co.	...	62,600	New York
14	T. Wilson, Sons & Co.	...	32,000	"
14	Wilson's & N. E. Railway	...	5,640	Hamburg
14	"	...	520	Antwerp
15	British Petroleum Co.	... Lamp	1,408,000	Kustendje
18	Wilson's & N. E. Railway	... Lub.	1,200	Antwerp
	MANCHESTER—			
4/6	Anglo-American Oil Co.	... Fuel	17,090	Baton Rouge
12	Pickford's	... Lub.	130	Hamburg
12	C. H. Morton & Sons	...	3,600	Philadel.
12	J. T. Fletcher & Co.	...	100	Antwerp
15	Worthington & Boler	...	2,730	Philadel.
18	Diamond Lubricating Co.	...	2,630	"
18	Bramwell Fern & Co.	...	4,000	"
18	Liverpool Storage Co.	...	11,650	"
18	"	...	18,540	New York
18	"	... Lub. Gr.	340	"
18	Anglo-American Oil Co.	... Lub.	106,400	"
	MIDDLESBROUGH—			
15	E. Harris & Co.	...	1,000	Antwerp
	NEWCASTLE—			
12	P. H. Matthiessen & Co.	...	890	Bergen
14	Tyne-Tees Steamship Co.	...	1,570	Antwerp
14	"	...	240	Hamburg
16	P. H. Matthiessen & Co.	...	220	Bergen
	NEWPORT—			
15	M. Jones & Co.	...	500	Antwerp
	PORTSMOUTH—			
15	Bristol Steam Navig. Co.	...	70	Hamburg
	SWANSEA—			
12	R. Turpin	...	1,400	New York
14	M. Jones Bros.	...	160	Bergen
	SOUTHAMPTON—			
11	White Star Line	...	100	New York
	DUNDEE—			
14	D. Alexander & Sons	...	480	Hamburg
	GLASGOW—			
12	Clyde Shipping Co.	...	2,300	Antwerp
13	"	...	250	"
13	Allan Bros. & Co.	...	49,000	Philadel.
14	Donaldson Bros.	...	9,000	Baltimore
18	Anchor Line	...	13,400	New York
18	"	... M. Colza	2,400	"
	GRANGEMOUTH—			
15	Jas. Currie & Co.	... Lub.	4,480	Hamburg
	LEITH—			
14	W. G. Yooll & Co.	... Lamp	2,180	"
14	Jas. Currie & Co.	... Lub.	1,200	"
15	G. V. Turnbull & Co.	... M. Colza	2,000	Baltimore
18	Jas. Currie & Co.	... Lub.	480	Hamburg
	BELFAST—			
8	J. C. Pinkerton & Co.	... Lub. Oil	480	Hamburg
		and Gr.		
15	"	... Lub.	240	"
	DUBLIN—			
14	P. Murphy & Co.	...	260	"
			5,445,130	
	Deduct—			
	LONDON—			
1/7	British Petroleum Co.	... Lamp	4,300	Kustendje
	GLASGOW—			
28/7	Anchor Line...	... Lub.	800	"
			5,440,030	

From Lloyd's

AUGUST 21ST, 1913.

THE "REVIEW" SHIPPING LIST.

The following abbreviations are used in this table:—L. Left. Pd. Passed. Arr. Arrived. Sp. Spoken. T. Trading. Cl. Cleared
The Anglo-American Co.'s vessels marked thus (*). The Anglo-Saxon Co.'s tankers thus (Δ). Messrs. Lanc & Macandrew's thus (□).

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
ADORNA	Antofagasta.	San Francisco	Arr. August 14	DAGHESTAN	Manchester ..	New York ...	Pd. Eastham
AMERICAN	Antwerp.....	New York ...	Pd. Prawle Pt. Aug. 10	DANUBIAN □	Port Arthur..	Hamburg ...	August 13
APPALACHEE*	Sabine.....	London	L. August 6	DAYLIGHT (Br. Bq.)	Philadelphia..	Hiogo	L. Newport
APSCHERON	Batoum	Venice	Pd. Dardanelles August 17	DELAWARE*	Novorossisk..	—	News Aug. 18
ARAL	Tyne	Philadelphia.	Pd. Dunnet Hd. August 12	DELAWARE SUN (American Schooner)	Philadelphia.	Sabine	Arr. May 1
ARAS	Tyne ...	Immingham	L. August 20	DERBENT	Batoum	Thames Haven	19 miles S. of
ARCA	Sabang	Gibraltar ...	L. Colombo August 12	DEUTSCHLAND	Philadelphia.	Rotterdam ..	Lizard Aug. 20
ARTHUR VON GWINNER	—	—	Launched Eins- warden Dec. 24. Since complet'g	DIAMANT	New York ...	Gothenburg	L. July 24
ASHTABULA*	San Francisco	W.C. South America	L. July 31	EL LOBO	Antofagasta	—	Pd. Dardanelles
ASTRAKHAN	Philadelphia.	Dunkirk.....	Arr. August 20	EL SEGUNDO	San Francisco	Vancouver ...	August 17
AUREOLE	Port Arthur.	Norfolk, Va..	L. August 11	EL TORO	Kustendje ...	Rotterdam ...	L. August 19
AZOV	Talara	Caleta Buena	Arr. July 18	ELAX Δ	Woosung ...	Hong Kong..	Arr. July 18
BAKU STANDARD..	Sabine.....	Hamburg ...	L. Norfolk, Va., August 9	ELISE MARIE	Gothenburg & Tyne	Baton Rouge	Arr. August 19
BALAKANI □	Manchester ..	New York ...	Pd. Eastham August 17	EMANUEL NOBEL...	Hamburg ...	Batoum	Arr. August 17
BATOUM	Port Arthur.	Sheerness....	L. Newport News Aug. 18	ENERGIE	Havana	Philadelphia.	Pd. Cape Wrath
BAYONNE	Batoum	—	Arr. Malta August 17	ERIVAN	Malta	Batoum	August 3
BEACON LIGHT	Portland.....	Invergordon.	Off the Wight August 14	ESTURIA	Abadan	Mombassa ...	Pd. Dardanelles
BLOOMFIELD	Amsterdam ..	Tyne	Arr. Aug. 13. In port Aug. 19	EUPLECTELA Δ	Kustendje ...	—	August 15
BORJOM.....	Alexandria...	Batoum	Cl. Constanti- nople Aug. 10	EXCELSIOR	Hamburg ...	New York ...	Pd. Dardanelles
BRILLIANT (Br. Bq.)	Philadelphia.	Hiogo	Pd. Anjer June 29	F. A. TAMPLIN	London	P. Mexico ...	August 16
BRILLIANT	Copenhagen	Philadelphia.	Pd. Dunnet Hd. August 11	FRANCE MARIE.....	Port Arthur	Tampico.....	Pd. Prawle Pt.
BRITISH SUN	Antwerp.....	Newport News	Arr. August 16	(Belgian Ship)	Macassar ...	Tarakan	August 16
BROADMAYNE	Calais	Tyne	Arr. Aug. 16. In port Aug. 19	FUMI MARU	Baltimore ...	Tuxpan	L. August 8
BUFFALO	San Francisco	Hangkow ...	L. July 27	GEESTEMUNDE ..	New York ...	London	L. July 8
BULLMOUTH Δ	Singapore ...	Tientsin	Arr. August 15	GENESSE*	—	Galveston ...	Pd. Sand Key
BULYSESSE Δ	Singapore ...	Woosung ...	L. August 10	GEORGIAN PRINCE	Thames Haven	Cardiff	August 10
BURGERMEISTER PETERSEN	Baton Rouge	Swinemunde.	L. Port Eads August 11	GOLDMOUTH Δ	Tuxpan	—	Arr. August 20
C. A. CANFIELD* ...	Tampico.....	Sabine.....	Arr. August 4	GUTHEIL	—	—	for Bizerta
CALCUTTA (Br. Bq.)..	San Francisco	Yokohama ...	L. July 5	H. C. HENRY.....	Amsterdam ..	Seattle	Sunk after colli- sion Baton
CAMILLO	Balek Pappan	Port Said ...	Sailed Singapore August 14	HAGEN	Hamburg ...	Kiel	Rouge April 28
CAPTAIN A. F. LUCAS	—	—	T. United States, Pacific	HAINAUT (Barge) ...	—	—	Arr. Monte
CARDIUM Δ	Singapore ...	—	Pd. Gibraltar August 19	HARPORT	San Francisco	Pisagua	Video ab't
CARPATHIAN □	Hull	New Orleans	Pd. Lizard August 18	HARRY	New York ...	San Juan ...	August 6
CAUCASIAN □	Goole	Galveston & Gulfport	L. Fayal August 17	LUCKENBACH	Newport News	New York ...	Arr. July 25
CHARLOIS.	New York ...	Rotterdam ...	Arr. June 28. In port August 19	HARRY WADSWORTH*	Copenhagen.	Philadelphia.	T. between
CHATHAM.....	Tampico	New York ...	Arr. August 14	HELIOS	New York ...	Messina	Tampico and
CHESTER	Antwerp.....	New York ..	Arr. August 20	HERA	New York ...	—	Aransas Pass
CHEYENNE	Barrow	Philadelphia.	Arr. August 14	HERBERT G. WYLIE	New Orleans	Tampico	L. August 8
CIRCISSIAN PRINCE	—	—	T. W.C. South America	HERMIONE	Port Arthur..	Norfolk, Va.	L. August 2
CITY OF EVERETT	New York ...	Tampico	156 miles S. of Scotland Light	HESPERUS	Baton Rouge	Campana ...	Arr. July 31. In
CLAM Δ	Batoum	Avonmouth..	Arr. August 20	HORLEY	Rio Janeiro...	New York ...	port August 9
CLEARFIELD	Tuxpan	P. Mexico ...	L. August 18	HOTHAM NEWTON	Barcelona ...	Constanti- nople	Pd. Dunnet Hd.
CLIO.....	Stettin & Tyne	New York ...	Pd. Dunnet Hd. August 17	HYRCANIA	Batoum	London	August 16
COMANCHEE	New Orleans.	London	L. Port Eads August 7	IMPEROYAL	St. John, N.B.	Quebec	Pd. Gibraltar
CONCH Δ	Suez	Abadan	L. August 14	IMPOCO	Pillau ...	—	August 16
CONRAD MOHR	Tyne	Philadelphia.	L. August 18	IOANNIS COUTZIS...	—	—	Arr. June 3
CORDELIA	Iquique	San Francisco	L. August 3	IROQUOIS* (Towing Barge Navahoe)	Tyne	New York ...	Aug. 16. In
COWRIE Δ	Seattle ...	San Francisco	L. August 17	J. B. AUG. KESSLER	Singapore ...	Calcutta	port Aug. 18
CURRIER	Philadelphia.	P. Padre ...	220 miles S. of Overfalls Light	JULES HENRY	Marseilles ...	Rotterdam ...	On Govt.
CUYAHOGA*	Sabine & Norfolk, Va.	Bombay	Arr. July 28. In port Aug. 5	(Fr. Bq.)	—	Singapore ...	Service
CYMBELINE	Rouen	New York ...	Pd. Lizard August 11	JUNO	San Francisco	Hong Kong	Pd. Dunnet Hd.
CZAR NICOLAI II....	Batoum	Hamburg ...	Pd. Sagres Aug. 16	KANAKUK	New York ...	Passages....	August 18

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
KIYO MARU.....	Callao	Hong Kong ..	L. Shimonoseki July 11	RANELLA	Singapore ...	Gibraltar ...	L. Port Said August 16
KOMETA	Barrow	Kustendje ...	Sailed Algiers August 13	RENDOVA (Br. Bq.)	New York ...	Seville	L. August 7
KREMLIN (late Snowflake)	St. Louis-du- Rhône	Batoum	Pd. Constanti- nople Aug. 17	RION	Kustendje ...	Copenhagen..	Arr. August 18
KURA	Sabine & Norfolk, Va.	Dantzig	Arr. August 17	ROCK LIGHT □	Naples	Port Arthur (Tex.)	Pd. Gibraltar August 16
LA CAMPINE	Philadelphia.	Antwerp.....	Pd. Delaware B'water Aug. 10	ROMANY Δ	Rotterdam...	Novorossisk..	Pd. Constanti- nople August 18
LA FLANDRE	Philadelphia.	Antwerp.....	Pd. Delaware B'water Aug. 9	ROSALIND	Stockholm...	Tyne	Arr. August 19
LA HESBAYE	Philadelphia.	Antwerp.....	Pd. Delaware B'water Aug. 7	ROTTERDAM	Rotterdam ...	New York ...	Pd. Prawle Pt. August 13
LACKAWANNA*	Philadelphia & Liverpool	Manchester...	S. Liverpool August 21	ROUMANIAN □	Port Arthur..	Belfast	L. Newport News August 18
LE COQ □	New York ...	Santander ..	Arr. August 18	ROUMANIAN PRINCE	Baltimore ...	Tampico	Pd. Cove Pt. August 10
LEUTSCH	Alexandria...	Batoum	Cl. Constanti- nople Aug. 11	RUSSIAN PRINCE ..	Tampico	Sabine.....	Arr. August 16
LUCCELLUM	Tyne	Port Arthur..	Off the Wight August 2	SALAHADJI Δ	Abadan	Soesoe.....	Arr. August 17
LUCERNA	Kustendje ...	Hamburg ...	Arr. August 17	SAMOSET (late Cadillac)	Sabine & Norfolk	Bombay.....	Arr. Kurrachee abt August 20
LUCIGEN	Portsmouth..	Port Arthur..	Pd. Lizard Aug. 6	SAN ANTONIO.....	—	—	T. Mexican Coast
LUCILINE □	Rouen	Tyne	Arr. August 7. In port August 19	SAN BERNARDO ...	—	—	T. Mexican Coast
LUMEN	Tyne	New York ...	Pd. Cape Wrath August 20	SAN CRISTOBAL	—	—	T. Mexican Coast
LUTETIAN □	Novorossisk..	Havre Roads.	Arr. Malta Aug. 21	SAN DUNSTANO.....	London	New Orleans.	Arr. Philadel- phia August 19
LUX □	Barcelona ...	New York ...	Pd. Gibraltar August 7	SAN EDUARDO	Puerto Mexico	Manchester...	Pd. Hd. of Kin- sale August 20
MAKKAVEI	Kustendje ...	Alexandria...	Cl. Constanti- nople August 15	SAN FRATERNO.....	Tyne	Tuxpan	Pd. Dover Aug. 16
MANNHEIM	New York ...	Hamburg ...	L. August 11	SAN GREGORIO	Tyne	New Orleans	Arr. August 18
MARGARETHA	Avonmouth..	Philade.phia.	Pd. Barry Island August 8	SAN RICARDO	Philadelphia.	Tuxpan	Pd. Delaware B'water Aug. 10
METEOR.....	Vladivostock.	Batoum	Cl. Constanti- nople August 11	SAN SILVESTRE.....	Avonmouth..	Philadelphia.	Pd. Lundy Island August 9
MEXICAN PRINCE..	Singapore ...	Hong Kong..	Arr. August 19	SANTA RITA	Kalahului ...	San Francisco	L. July 7
MIJDRECHT	Kustendje ...	London	Pd. Dardanelles August 18	SARANAC*	Calcutta	New York ...	L. June 10
MINA BREA.....	San Francisco	Callao	L. Payta July 26	SAXOLEINE	Philadelphia.	La Pallice ...	L. August 14
MIRA	New York ...	Venice	L. August 11	SEBASTIAN	—	—	Launched Dun- dee April 24, since complet'g
MITRA	Batoum	Aroe Bay ...	L. Singapore August 19	SEQUOYA (late Tamarac)	San Francisco	Calcutta	Arr. Balek Pap- pan August 15
MOHAWK*	Mexico	New York ...	Arr. June 25. In port August 9	SERVIAN □	Amsterdam...	Port Arthur..	Pd. Scilly Aug. 10
MUREX Δ	Sydney	Balek Pappan	Ashore abt July 18, 6 S., 119 E.	SHWEDAGON	Bombay	Rangoon.....	Arr. July 24
NARRAGANSETT ...	London	New York ...	120 miles S W. of Brow Head August 16	SIOUX.....	New York ...	Tampico	L. August 10
NATICA	Rangoon.....	Port Said ...	Arr. Suez Aug. 20	SIRIUS (Ger.)	Rotterdam...	Baton Rouge	Pd. Sand Key August 19
NEKO	Hamburg ...	Leith	Arr. July 6. In port August 19	SOCONY	Tampico	New York ...	Arr. July 28
NELSON	New Orleans	Guanica	125 miles E. of Havana Aug. 8	SOYO MARU.....	Colombo	Persian Gulf	L. July 23
NEW YORK*	Rotterdam ...	New York ...	Pd. Lizard Aug. 20	STANDARD	Philadelphia.	Tampico	Arr. August 12
NIAGARA	San Francisco	Hankow	L. July 30	STROMBUS Δ	London	Rangoon.....	Pd. Gibraltar August 18
NORMAN BRIDGE...	New York ...	Tampico	L. August 10	SULTAN VAN LANGKAT Δ	Bombay	Abadan	L. August 11
OBBERON	Los Angeles..	Tocopilla ...	Arr. August 3	SUN	Sabine.....	Philadelphia.	L. August 6
OCEAN	Amsterdam .	Sabine.....	L. Norfolk, Va., August 11	SUNLIGHT (Br. Bq.)	Macoris	Flushing ...	L. July 28
OILFIELD	Hamburg ...	Philadelphia.	Pd. Lizard August 20	SURAM	Baton Rouge	Antwerp... ..	L. August 13
ORIFLAMME □	Havre.....	Tyne	Arr. August 8. In port August 19	SUWANEE*	Kustendje ...	London	Pd. Gibraltar August 20
OSAGE	Rotterdam ...	New York ...	In wireless com. August 18	TARAKAN	—	—	T. E. Indies
OTTAWA*	Kustendje ...	London	Pd. Gibraltar August 16	TECUMSOH	New York ...	Tampico	Pd. Sand Key August 7
OURAL	Antwerp.....	Batoum	L. August 14	TELENE Δ	Cardiff.....	Novorossisk..	Arr. August 14
PATELLA Δ	Tyne	Malta	Pd. Tarifa Aug. 19	TEREK	London.....	Port Arthur (Tex.)	Pd. Lizard August 16
PAUL PAIX.....	Kustendje ...	Dunkirk.....	Pd. Dardanelles August 14	TEXAS	Antwerp.....	Port Arthur..	Arr. August 10
PAULA	Philadelphia.	Ymuiden ...	Arr. August 17	TIFLIS	Batoum	Rouen.....	Pd. Sagres August 15
PAWNEE	—	—	Launched Tyne July 30	TONAWANDA*	Liverpool ...	New York ...	Arr. August 13
PECTAN	Antofagasta..	Port San Luis	Arr. July 21	TRINCULO.....	Port San Luis	—	L. August 6
PENNOIL	Rotterdam ...	Port Arthur..	Pd. Lizard Aug. 1	TRINIDADIAN.....	New York ...	Port Arthur (Tex.)	Arr. August 5
PETROLEINE	New York ...	Bordeaux ...	L. August 15	TRITON	Hamburg ...	New York ...	Pd. Dover Aug. 7. In wireless com. Aug. 9
PHOEBUS	Taltal	San Francisco	Arr. August 8	TROCAS Δ	Tarakan.....	Hong Kong..	Arr. August 19
PINNA □	Port Arthur..	New Orleans.	L. August 18	TURBO	Singapore ...	—	Pd. Gibraltar August 20
PONUS	San Francisco	Muroran.....	L. July 23	UNCAS	New York ...	Calcutta	Pd. Perim Aug 10
POTOMAC*	Selzaete	New York ...	L. Portland August 14	VEDRA	Rouen.....	Baton Rouge	Pd. Prawle Pt. August 15
POWHATAN	San Francisco	Calcutta	Arr. abt Aug. 15	VILLE DE DIEPPE (Norwegian Barque)	New York ...	La Pallice ...	Arr. July 12
PROMETHEUS.....	New Orleans	Tuxpan	L. Port Eads August 5	VITRUVIA.....	—	—	Launched Clyde July 12
PRUDENTIA.....	Maurer ...	Brighton (Trinidad)	L. August 10	VOLCANUS	Singapore ...	Saigon	Arr. August 18
PURELIGHT	Tyne	Philadelphia.	Arr. August 11	VOLUTE Δ	Tsingtau ...	Hong Kong..	Arr. August 2
QUEVILLY (Fr. Bq.)	New York ...	Rouen.....	Arr. August 16	WABASHA... ..	Taku	San Francisco	Arr. August 15
RADIOLEINE II. ...	Marseilles ...	—	Pd. Gibraltar August 16	WANETA (lt. Impoco)	Tampico	Aransas Pass	Arr. August 10
				WASHINGTON.....	Bombay	Kustendje ...	Pd. Perim Aug. 20
				WEEHAWKEN	Amsterdam...	Batoum	Arr. August 20
				WILLIAM F. HERRIN	Monterey ...	Portland, O.	Pd. San Francisco August 6
				WILLKOMMEN	Tyne	New York ...	Pd. Cape Wrath August 10
				WINNEBAGO	Itosaki	San Francisco	Arr. July 31

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Russell, John, & Co., Ltd., Alma Tube Works, Walsall.

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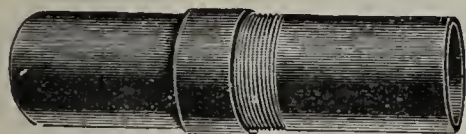
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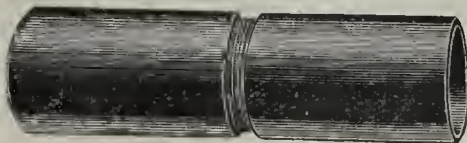
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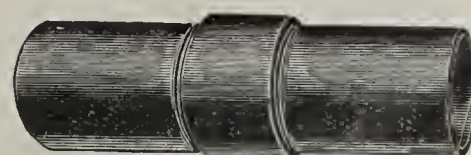
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The Petroleum Review.

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THE PETROLEUM REVIEW.

The ANNUAL SUBSCRIPTION for both English and Foreign readers is 26s., including Postage. Single Copies may be had at the offices at 6d.

The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

Prospecting Activity in Australia.

SEVERAL prominent oil men in Australia are now concentrating their activity in endeavouring to prove the great oil wealth of the northern sections of the Commonwealth, and it is anticipated that in view of the lessons taught by early failures, their efforts to establish a remunerative industry in the production of crude oil will be successful. In times past, several attempts have been made to produce liquid oil in commercial quantities, but for various reasons the whole of the attempts have failed, in spite of the fact that there are abundant evidences in the Commonwealth of extensive petroleum reserves. Now, however, the Government have taken the matter up; a new survey has been made of the oil regions, and this is said to unmistakably point to the success which awaits careful exploitation. Indeed, the Government is so satisfied with the outlook that it is highly probable it will commence operations in the near future on its own behalf. If this be so, and provided the results are successful, the opening of a branch of petroleum production in Australia will be of enormous benefit to the Antipodes generally, for up to the present they rely almost exclusively upon imported petroleum products, these for the most part coming through the agencies of the Standard Oil Company from the United States.

Deliberate Watering of Oil Wells.

JUST at a time when technological science is doing its best to grapple with the difficult question of effectively shutting off the water-bearing strata from oil wells—the lack of which has caused the early decay of many fields and injury to others—the news comes to hand that in the Bradford field of America operators are deliberately filling oil wells with water in order to increase the output of adjacent wells. Such a policy, we believe, cannot claim any adherents in the ranks of practical oil men, and we are surprised to find that there has not been a general outcry against such procedure in the Bradford territory. The Bureau of

Mines is displaying considerable interest in combatting this absurd policy, and already its experts are engaged upon a campaign of education to prevent such practices in Oklahoma. Federal legislation it seems has no means of stopping such action; the only thing, therefore, for the Government to do is to lesson such practices by educating the operators as to the best interests of the industry as a whole. There is no doubt, however, that when the new regulations are issued by the Interior Department for the drilling of new leases on Indian lands, they will contain drastic provisions in respect to the deliberate watering of wells.

Duty-free Petroleum for Russia.

THE announcement made that the Russian Imperial Council of Ministers have resolved to acquire large quantities of petroleum and coal from abroad, and to waive the customary excise duties chargeable upon it, clearly points to the dilemma in which Russia is in at the moment, consequent not only upon the high price of petroleum products, but owing to the dearth of sufficient supplies. The opportunity will thus be given to Roumania to materially increase her export by coming to Russia's rescue in regard to supplying petroleum products, for while on the one hand, Russia's output of oil is steadily diminishing, that of her neighbour is constantly increasing, as we showed in the last issue of the REVIEW. As a result of the continuous advances in the prices of liquid fuel, many large users are reverting to coal, but this too cannot be supplied unless large quantities are imported from abroad.

Californian Pipelines as Common Carriers.

THE decree which we announce on another page, by which the pipelines of California henceforth become common carriers is of wide interest to all those who are engaged in the production of petroleum in the Californian State. We have always held that to declare pipelines constructed by private funds for a specific purpose as common carriers of each and everybody's oil is a principle with which no person endowed with a little common sense can agree, and how the present Bill has passed into being must come as a surprise to those who are at all acquainted with California and its petroleum industry. The present pipeline system of California is as comprehensive as any system to be found; it has been built up by the enterprise of individual companies, who have sought a means to transport their oil to seaboard or centres of refining activity, and naturally it is solely intended to transport the crude oil of those firms through whose enterprise and financial backing it has been laid down. Now, however, the law says that these lines must, upon

certain fixed payments, transport the oil of those producers who hitherto have not been able to avail themselves of the pipeline facilities. In our opinion, no argument such as that advanced by the State authorities can hold good, and we venture to predict that the Act will die with its passing. It cannot even claim the much-talked-of Socialistic principles; it is an absurdity and a reflection upon the whole of those members who voted for it. Though the Californian industry will not gain by the passing of the Act, we are convinced it will not suffer from its effect.

THE HOUSING OF THE BAKU WORKMEN.

A LEADING Moscow paper publishes a very interesting article dealing with the housing of the Baku workmen which throws some light on the question of the Baku strike. The correspondent states that in all the strike movements in Baku the chief point demanded by the workmen was the improvement of their living accommodation.

In 1907 the Government, recognising the importance of providing accommodation for the Baku workmen, allotted a special area for the purpose of establishing two settlements for the workmen. The Government then decided that in the course of five years special roads should be constructed between the settlement and the oilfields, and also that sufficient drinking-water should be provided, but though this time has passed nothing has been done.

The present condition of the housing of workmen, says the author, is such that it leads to a variety of infectious diseases. Most of the workmen are living in barracks which are so built as not to afford protection to the inhabitants from either wind, rain, cold, or from the prevailing gases. The fact that the workmen are living on the fields, which are full of gases, dust and soot, must be taken into consideration. Most of the barracks are damp, and in a great many cases there is an entire absence of beds, the occupants having to sleep upon the floor, whilst in some cases two or three workmen are forced to sleep on one bed.

The dirt in the beds is said to be beyond description, but the foregoing refers to those barracks provided by the employers. Still worse is the condition of those labourers who have to find their own accommodation. In some of them, in very small rooms, from eight to ten workmen have to sleep together.

It is evident therefore that under such conditions dissatisfaction amongst the workmen is bound to exist, and this reminds me (Dr. P. Dvorkovitz says) of the views expressed by employers in regard to the housing of workmen, which have not changed since 1883, when I remember that my employer was against building workmen's houses, putting forward the argument that if he provided comfortable accommodation for his workmen they could not be so easily induced to attend the works to do their work, where everything was so comfortable and clean.

CALIFORNIA OILFIELDS, LTD.

HAVING in view the negotiations with the Shell Transport and Trading Company, Ltd., and the fact that the directors of that Company paid a dividend of 1s. per share, free of income tax, in June last, the directors of the Californian Oilfields, Ltd., have declared an interim dividend of 1s. per share, free of income tax. This distribution will place the shareholders of the Californian Oilfields, Ltd., on the same footing, with regard to dividend, as the holders of shares in the Shell Transport and Trading Company, Ltd.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended August 23rd was 107,000 poods.

SPIES PETROLEUM COMPANY, LTD.—Production, week ended August 24th, was 233,775 poods, or about 3,771 tons. The total production for the year, from Jan. 14th to August 24th, was 8,954,255 poods, or about 144,423 tons. The total production for the corresponding period last year was 10,535,505 poods, or about 169,927 tons. Price of crude oil at Baku, 52¼ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD. — The production of crude oil for week ended August 23rd was 15,607 poods (252 tons). Work stopped for two days owing to labour troubles, which have now been settled.

EUROPEAN OILFIELDS CORPORATION, LTD. — The production for the week ended August 24th was 105,400 poods, or 1,699 tons. Crude oil at Blacktown is now 51 copecs per pood.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended August 23rd was 121,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended August 23rd was 30,024 poods (484 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended August 23rd was 8,900 poods, or 164 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended August 24th was 13,779 poods, or 222 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended August 23rd, 106,000 poods or 1,710 tons.

NORTH CAUCASIAN OIL FIELDS, LTD. — Production for the week ended August 26th was 190,300 poods, or 3,069 tons. Corresponding period last year, 691 tons. Total production to date for this year, 65,237 tons, last year 17,994 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended August 24th was 68,167 poods, or 1,110 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended August 23rd was 12,800 poods.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended August 23rd was 9,447 poods (152 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended August 23rd was 1,560 poods (25 tons).

GERHARD & HEY,
OILFIELDS SHIPPING AGENTS,
Great St. Thomas Apostle
 (Off Cannon Street).
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LONDON, E.C.

DEVELOPMENTS IN THE OILFIELDS.

LATEST PROGRESS REPORTS OF ENGLISH COMPANIES.

Kansas-Oklahoma.—Oil run through pipeline to refinery fourteen days ended 15th August, 27,000 barrels.

Traian Roumanian Oil Company, Ltd.—Crude oil for week ended 23rd inst., 376 tons. Production interrupted owing to severe storms. Commenced cleaning Well No. 3 Bacoi to-day.

Maikop Pipeline and Transport Company, Ltd.—Received for pumping (week ended 23rd instant): Ekaterinodar line, 55,855 poods (901 tons); Krimskaya line, 47,545 poods (758 tons).

Oilfields of Mexico Ltd.—Well No. 19, 4,418 ft.; Well No. 31, 505 ft. (there has been no change). Well No. 32, 708 ft. (there has been no change). Well No. 33, building derrick. Production last week, 2,500 barrels.

Roumanian Consolidated Oilfields, Ltd.—Production for week ended 23rd inst., 1,528 tons. Office note: "Stoppage of electric power caused by heavy thunder storm temporarily reduced output during last two days."

Anglo-Maikop Corporation, Ltd.—Telegram dated 24th instant from the manager at Krimskaya: Well No. 1, depth 925 ft.; 16-in. column stopped; preparing to lower 14 ins. Well No. 2, re-erection of derrick continued. Well No. 3, depth 43 ft.

Kern River Oilfields of California, Ltd.—The subsidiary company (St. Helen's Petroleum Company, Ltd.) reports that Well No. 2, Midway Field, is producing at the rate of 125 barrels of oil and 2,000,000 ft.

of gas per day, the value of the oil being 55 cents per barrel. The depth of the well last reported was 2,475 ft., and it is not proposed to drill deeper for the present on account of the gas pressure.

Levanovskoe Petroleum Company, Ltd.—Production (week ended 23rd instant), 5,000 poods. Well No. 1, cleaning plug and baling. Well No. 2, depth 1,815 ft.; drilling difficult owing to cavings. Well No. 3, depth 840 ft. Telegram dated 27th instant: Well No. 1—spouts once daily; cleans itself, but plugs afterwards. Later it will be necessary to replace with stronger casing the bottom of the present 6-in. column.

Maikop Midland.—Well No. 1, depth 1,512 ft. Well No. 2, awaiting rig. Well No. 4, depth 1,457 ft. Well No. 5, depth 1,456 ft. Telegram dated 27th instant: Well No. 4—periodical fountain—oil production, 2,000 poods daily. Office note—Efforts were being made to reach the light oil source below the present heavy oil source, but this has been rendered impossible owing to the strong pressure of gas, and therefore the heavy oil source is now being exploited.

Tampico - Panuco and Chijoles.—The general manager at Panuco cables, under date of 25th instant, as follows: "Well No. 1 at Arena, belonging to Tampico-Panuco Oilfields, Ltd., has reached a depth of 1,750 ft. Well No. 1 at Tamboyoché has reached a depth of 3,050 ft. As to Chijoles Oil, Ltd., Wells Nos. 1 and 2, at Chijoles, producing steadily at the rate of about 500 barrels per day. Well No. 3, depth 1,800 ft. Well No. 4, commenced building rig."

SIX MONTHS' BAKU PRODUCTION.

THE production of crude oil in Baku for the first half of the present year was 203,700,000 poods, of which only 2,300,000 poods were received by spouters. This quantity was produced in:—

	Poods.
Balakhany	33,300,000
Saboontchi	83,900,000
Ramany	39,000,000
Bibi-Eybat	47,500,000

On the 1st of July the number of producing wells in the various districts of Baku was as follows:—Balakhani, 928 poods; Saboontchi, 1,188 poods; Romany, 298 poods, and Bibi-Eybat 306 poods.

In the course of the half-year 219,625 ft. have been bored in the above four districts, of which 101,297 ft. were bored in Saboontchi, or nearly 50 per cent. of the total. The total number of wells not in production on the 1st of July, was 1,296.

The average production of wells per pood, per day, was in Balakhani, on the 1st of July:—199 poods; Saboontchi, 396 poods; Romany, 701 poods, and Bibi-Eybat 826 poods, or an average for the Baku district of 904 poods.

The average depth of the new wells completed is:—Balakhani, 1,000 ft.; Saboontchi, 1,200 ft.; Ramany, 2,200 ft., and Bibi-Eybat, 1,700 ft.

The total quantity of petroleum products produced at the refineries for the six months was as follows:—

	Poods.
Kerosene	44,203,000
Lubricating Oil	12,928,000
Solar or Gas Oil	5,173,000
Motor Spirit	800,000
Residues	81,376,000
Various other products	26,149,000

GERMANY'S PETROLEUM IMPORT TRADE.

STATISTICS FOR THE SEVEN MONTHS.

THE total imports of various petroleum products into Germany from the beginning of the present year to the end of July were 858,881 tons, as against 1,027,506 tons for the corresponding period of last year, or a reduction of 168,625 tons.

In spite of the substantial reduction in quantity, owing to the high prices of oil, the value of the imports for the above period represents 97,083,000 marks, as against 98,303,000 marks last year, or a decrease of only 1,220,000 marks. Thus the average price per ton realised this year was about 101½ marks, as against an average for last year of about 95 marks.

The various qualities of oil imported into Germany for the seven months were as follows:—

Lamp oil.—418,018 tons this year, and 453,607 tons last year, or a decrease of 35,589 tons. The value represented 33,107,000 marks, as against 35,926,000 marks for the same period last year, or a decrease of 2,819,000 marks.

The illuminating oil came from the following countries:—

	1913.	1912.	Increase.	Decrease.
	Tons.	Tons.	Tons.	Tons.
U.S.A. ...	313,143	359,221	—	46,078
Galicia ...	74,900	63,770	11,130	—
Roumania ...	17,706	14,743	2,963	—
Russia ...	12,148	15,762	—	3,614

Lubricating oil.—148,941 tons this year, and 136,476 tons last, the increase being 12,465 tons. The value represented 25,514,000 marks, as against 23,378,000 marks for the previous year, or an increase of 2,136,000 marks.

The lubricating oil imports were from the following countries:—

	1913.	1912.	Increase.
	Tons.	Tons.	Tons.
U.S.A. ...	62,400	57,475	4,925
Russia ...	55,525	50,342	5,183
Galicia ...	21,500	19,560	1,940
Roumania ...	7,427	7,427	—
Belgium ...	1,5791	386	193

Crude benzine—was imported to the extent of 93,647 tons, as against 112,809 tons in 1912, the decrease being

19,162 tons. The value represented 19,198,000 marks, as against 23,126,000 marks last year.

The imports were from the following countries:—

	1913.	1912.	Increase.	Decrease.
	Tons.	Tons.	Tons.	Tons.
Roumania ...	29,879	25,034	4,845	—
U.S.A. ...	29,456	42,614	—	13,158
Russia ...	19,033	26,800	—	7,767
Dutch Indies ...	10,694	11,938	—	1,244
Galicia ...	4,437	6,384	—	1,947

From the above table it will be seen that Roumanian motor spirit occupied the first place in the import trade of Germany. In addition to the above, a heavy benzine is imported into Germany, and during the past seven months the quantity was 55,676 tons, as against 35,544 tons for the seven months of last year. The value was represented by 10,161,000 marks.

These heavy benzine imports came from the following countries:—

	1913.	1912.	Increase.
	Tons.	Tons.	Tons.
Dutch Indies ...	21,417	18,547	2,870
Galicia ...	11,381	7,352	4,029
Roumania ...	10,845	8,254	2,591
U.S.A. ...	1,685	948	737

Gas oil.—The total seven months' imports of gas oil were 24,687 tons, as against 34,213 tons in 1912, or a decrease of 9,526 tons, and the value amounted to 1,580,000 marks, as against 2,190,000 marks for 1912.

The quantities were brought from the following countries:—

	1913.	1912.
	Tons.	Tons.
Austria-Hungary...	21,147	25,787
U.S.A. ...	2,734	8,204

Light benzine.—Imports were 5,089 tons, as against 5,358 in 1912, and their value was 1,479,000 marks, as against 1,527,000 marks. They were brought from the following countries:—

	1913.	1912.
	Tons.	Tons.
Austria-Hungary...	2,432	3,087
U.S.A. ...	1,174	1,001
Roumania ...	1,173	995

Paraffin scale—was imported to the extent of 11,475 tons, and represented a value of 6,655,000 marks.

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THE FLASH POINT OF OILS.

METHODS AND APPARATUS : FOR ITS DETERMINATION. :

By Messrs. IRVING C. ALLEN and A. S. CROSSFIELD (*of the Washington Bureau of Mines*).

(Concluded from page 196.)

THE construction and dimensions of the Abel-Pensky and Pensky-Martens testers have already been illustrated in this article, and their manner of manipulation is hereinafter described.

The selection of a suitable workroom is very important. In testing lamp oils it is desirable to carry on the tests in a room with a temperature ranging from 18° to 20° C., and it is essential that the tester used be well protected from all interfering air currents. The illumination of the room should be not too bright, as the test flame and the flash are better observed in a dim light.

The proper selection and care of the sample are essential. In the selection of a sample for testing one must always be sure that the sample truly represents the oil to be tested. The oil should be thoroughly mixed or the sample should be taken by the aid of a sampling tube from points symmetrically distributed throughout the body of the oil. The sample should then be kept hermetically sealed or at least kept in a well closed vessel in a cool place until ready for use. The sample should stand undisturbed in the workroom for such a time immediately before testing that its temperature becomes practically that of the room.

The reading of the barometer and deciding at what particular temperature the testing should begin are important. Before beginning the test the barometer should be read to the nearest whole millimeter, and then by consulting Table I the particular temperature should be ascertained at which the slide should be first opened to expose the test flame. At the barometer reading given in column A the test exposures of the flame should begin the number of degrees centigrade given in column B below the apparent flash point as determined by a preliminary test.

TABLE I.
CORRECTION OF FLASH POINT TO A BAROMETRIC PRESSURE
OF 760 MM.

A Barometer reading (mm.).	B Correction (° C.).
685 to 695	9.0
695 " 705	9.5
705 " 715	10.0
715 " 725	10.5
725 " 735	11.0
735 " 745	11.0
745 " 755	11.5
755 " 765	12.0
765 " 775	12.0
775 " 785	12.5

The approximate flash point of an oil to be tested should be first ascertained by a preliminary test. The test should be carefully repeated, beginning some 5° C. below the approximate flash point.

After ascertaining the temperature at which the slide should be first opened (see paragraph above), the tester

is leveled on a flat-topped table and the bath filled with water or oil as the case may be and warmed to a temperature of 10° C. below the approximate flash point as determined in the preliminary test.

The sample and the oil cup must first be brought to a temperature of about 10° C. below the approximate flash point of the oil, by standing the cup in an ice mixture or warming the sample as may be found necessary before the cup is adjusted in the bath. The lower edge of the overflow aperture is greased on its outer side to induce ready overflow when the oil expands. The clean, dry cup is then placed in the bath, the sample is run into the cup with the aid of a glass pipette until the filling point just disappears under the surface as seen by light reflected from the surface of the oil. Care must be taken not to splash the oil on to the sides of the cup and not to have froth formed on the oil. All bubbles on the surface of the oil must be pricked with a heated wire. In case too much oil has been accidentally run into the cup, the cup must be emptied, washed clean with a good solvent, wiped dry, and a fresh filling made. After the filling is correctly done, adjust the cover and thermometer immediately, light the test flame, and adjust it to the size of the ivory bead on the cover, that is, so that it will burn 0.1 cubic foot of coal gas per hour. Then light the gas flame below the bath and adjust to such a height, as determined by preliminary tests, that the temperature of the oil will rise at the rate of from 2° to 3° C. per minute.

Allow the apparatus to stand ten minutes, to give time for the oil vapours to accumulate, meanwhile stirring regularly and constantly at one revolution per second, then warm to within 5° C. of the flash point and expose the test flame for exactly one second by means of the mechanism provided on the cover. Continue stirring and making the exposure at each 0.5° C. rise in the temperature until the flash occurs. Particular care must be taken that the cup is not subjected to drafts during the test and that the breathing of the operator is not allowed to interfere, particularly at the moment the test flame is exposed to the vapours. It will be noted that at about 5° C. below the flash point, the test flame, as it is exposed to the vapours, will be surrounded by a pale blue halo, which gradually increases in intensity until a sudden inflammation or gentle explosion of the vapours or the "flash" occurs. The temperature at which this occurs, as registered by the thermometer in the oil, is the flash point. With fuel oil residues or with poorly refined oils from which a small quantity of low-flashing fractions is continually being liberated, this halo may first appear as much as 30° C. below the flash point.

The test should always be repeated with a fresh sample. The first sample should be thrown away, the

cup washed with gasoline, wiped dry, the cup and water bath cooled to the proper temperature, and the test repeated exactly as described above. Duplicate tests should agree within 0.5° C. The mean of the two readings, if good agreement is noted, corrected for barometric pressure is considered the flash point of the oil.

The Pensky-Martens tester is of the same dimensions and general construction as the Abel-Pensky, but differs from it in that the Pensky-Martens tester is fitted with a heavy outer shell of metal, which acts as a metal bath, instead of with a water bath or oil bath like the Abel-Pensky. The method of testing with the Pensky-Martens is the same as with the Abel-Pensky.

The burning point is that temperature at which the oil ignites and continues to burn. To determine the boiling point, remove the cover, continue the heating, and expose a test flame to the vapours as nearly as possible in the same manner as when taking the flash point until the oil ignites and continues to burn.

In some instances the cost of the Abel-Pensky and Pensky-Martens testers prohibits their use. In such a case, or when a high degree of accuracy is not required—that is, when the flash point of the oil is not within 5° C. of the minimum legal flash point selected—the flash point may be determined by means of an open-cup tester or a test-tube tester. But in all cases where the flash point of the oil is within 5° C. of the legal flash point, and in all cases of controversy or doubt, the Abel-Pensky or the Pensky-Martens tester should be used.

The open-cup tester is used in testing for approximate flash points only. A simple open-cup tester that may be used for such testing is as follows:—

A glass beaker or metal cup of approximately the same dimensions as the Abel-Pensky and Pensky-Martens testers—that is, 5.0 cm. in diameter and 5.5 cm. in depth—is filled to within 1.8 cm. of its upper rim with the oil to be tested. In testing lamp oils the cup is supported in a water bath by a flange at its upper edge, and in testing oils with higher flash points, the cup is supported on a sand bath. A thermometer is supported with its bulb immersed in the oil. A test-flame burner is made by drawing a piece of hard glass tubing to a capillary about 1 mm. in diameter, to which gas is supplied. The flame is adjusted to 3 mm. cross section. The bath is provided with an ordinary Bunsen burner. The method of testing is as nearly as possible like that in official tests with the Abel-Pensky and Pensky-Martens testers.

A simple and inexpensive tester, based on the principle developed by Victor Meyer, Haass, and others, which will show whether or not a lamp oil will flash at any given temperature, and may be used in ordinary work, is made as follows:—

A glass test tube approximately 2 cm. in diameter and 15 cm. long is one-quarter filled with the oil to be tested. The tube is loosely closed with a cork and is immersed to the cork in a water bath warmed to the desired temperature until the temperature of the oil has reached the temperature of the bath. The tube is then removed from the water bath and vigorously shaken. The tube is again immersed in the bath for a moment to equalise the temperature and to allow the vapour to settle. The tube is then removed from the bath, the cork withdrawn in the immediate vicinity of

a flame, and the vapours exposed for ignition. Failure of a flash or burning will denote that the oil will not flash at this particular temperature. If that temperature is the legal minimum flash point the oil will have satisfactorily withstood the test, If the test is carefully made, and concordant results are obtained on repetition, it may be trusted for ordinary testing.

CORRECTION OF FLASH POINT FOR NORMAL BAROMETRIC PRESSURES.

[Reading of barometer, mm.]

Flash point, °C.															
760	650	655	660	665	670	675	680	685	690	695	700	705	710	715	
19.0	15.5	15.6	15.7	15.8	15.9	16.1	16.2	16.4	16.6	16.7	16.9	17.1	17.3	17.4	
19.5	16.0	16.1	16.2	16.3	16.4	16.6	16.7	16.9	17.1	17.2	17.4	17.6	17.8	17.9	
20.0	16.5	16.6	16.7	16.8	16.9	17.1	17.2	17.4	17.6	17.7	17.9	18.1	18.3	18.4	
20.5	17.0	17.1	17.2	17.3	17.4	17.6	17.7	17.9	18.1	18.2	18.4	18.6	18.8	18.9	
21.0	17.5	17.6	17.7	17.8	17.9	18.1	18.2	18.4	18.6	18.7	18.9	19.1	19.3	19.4	
21.5	18.0	18.1	18.2	18.3	18.4	18.6	18.7	18.9	19.1	19.2	19.4	19.6	19.8	19.9	
22.0	18.5	18.6	18.7	18.8	18.9	19.1	19.2	19.4	19.6	19.7	19.9	20.1	20.3	20.4	
22.5	19.0	19.1	19.2	19.3	19.4	19.6	19.7	19.9	20.1	20.2	20.4	20.6	20.8	20.9	
23.0	19.5	19.6	19.7	19.8	19.9	20.1	20.2	20.4	20.6	20.7	20.9	21.1	21.3	21.4	
23.5	20.0	20.1	20.2	20.3	20.4	20.6	20.7	20.9	21.1	21.2	21.4	21.6	21.8	21.9	
24.0	20.5	20.6	20.7	20.8	20.9	21.1	21.2	21.4	21.6	21.7	21.9	22.1	22.3	22.4	
24.5	21.0	21.1	21.2	21.3	21.4	21.6	21.7	21.9	22.1	22.2	22.4	22.6	22.8	22.9	
25.0	21.5	21.6	21.7	21.8	21.9	22.1	22.2	22.4	22.6	22.7	22.9	23.1	23.3	23.4	
25.5	22.0	22.1	22.2	22.3	22.4	22.6	22.7	22.9	23.1	23.2	23.4	23.6	23.8	23.9	
26.0	22.5	22.6	22.7	22.8	22.9	23.1	23.2	23.4	23.6	23.7	23.9	24.1	24.3	24.4	
26.5	23.0	23.1	23.2	23.3	23.4	23.6	23.7	23.9	24.1	24.2	24.4	24.6	24.8	24.9	
27.0	23.5	23.6	23.7	23.8	23.9	24.1	24.2	24.4	24.6	24.7	24.9	25.1	25.3	25.4	
27.5	24.0	24.1	24.2	24.3	24.4	24.6	24.7	24.9	25.1	25.2	25.4	25.6	25.8	25.9	
28.0	24.5	24.6	24.7	24.8	24.9	25.1	25.2	25.4	25.6	25.7	25.9	26.1	26.3	26.4	
28.5	25.0	25.1	25.2	25.3	25.4	25.6	25.7	25.9	26.1	26.2	26.4	26.6	26.8	26.9	
29.0	25.5	25.6	25.7	25.8	25.9	26.1	26.2	26.4	26.6	26.7	26.9	27.1	27.3	27.4	
29.5	26.0	26.1	26.2	26.3	26.4	26.6	26.7	26.9	27.1	27.2	27.4	27.6	27.8	27.9	
30.0	26.5	26.6	26.7	26.8	26.9	27.1	27.2	27.4	27.6	27.7	27.9	28.1	28.3	28.4	
30.5	27.0	27.1	27.2	27.3	27.4	27.6	27.7	27.9	28.1	28.2	28.4	28.6	28.8	28.9	
31.0	27.5	27.6	27.7	27.8	27.9	28.1	28.2	28.4	28.6	28.7	28.9	29.1	29.3	29.4	
31.5	28.0	28.1	28.2	28.3	28.4	28.6	28.7	28.9	29.1	29.2	29.4	29.6	29.8	29.9	
32.0	28.5	28.6	28.7	28.8	28.9	29.1	29.2	29.4	29.6	29.7	29.9	30.1	30.3	30.4	
32.5	29.0	29.1	29.2	29.3	29.4	29.6	29.7	29.9	30.1	30.2	30.4	30.6	30.8	30.9	
33.0	29.5	29.6	29.7	29.8	29.9	30.1	30.2	30.4	30.6	30.7	30.9	31.1	31.3	31.4	
33.5	30.0	30.1	30.2	30.3	30.4	30.6	30.7	30.9	31.1	31.2	31.4	31.6	31.8	31.9	
34.0	30.5	30.6	30.7	30.8	30.9	31.1	31.2	31.4	31.6	31.7	31.9	32.1	32.3	32.4	
34.5	31.0	31.1	31.2	31.3	31.4	31.6	31.7	31.9	32.1	32.2	32.4	32.6	32.8	32.9	
35.0	31.5	31.6	31.7	31.8	31.9	32.1	32.2	32.4	32.6	32.7	32.9	33.1	33.3	33.4	

Flash point, °C.

720	725	730	735	740	745	750	755	760	765	770	775	780	785	
17.6	17.8	18.0	18.1	18.3	18.5	18.7	18.8	19.0	19.2	19.4	19.5	19.7	19.9	
18.1	18.3	18.5	18.6	18.8	19.0	19.2	19.3	19.5	19.7	19.9	20.0	20.2	20.4	
18.6	18.8	19.0	19.1	19.3	19.5	19.7	19.8	20.0	20.2	20.4	20.5	20.7	20.9	
19.1	19.3	19.5	19.6	19.8	20.0	20.2	20.3	20.5	20.7	20.9	21.0	21.2	21.4	
19.6	19.8	20.0	20.1	20.3	20.5	20.7	20.8	21.0	21.2	21.3	21.5	21.7	21.9	
20.1	20.3	20.5	20.6	20.8	21.0	21.2	21.3	21.5	21.7	21.9	22.0	22.2	22.4	
20.6	20.8	21.0	21.1	21.3	21.5	21.7	21.8	22.0	22.2	22.4	22.5	22.7	22.9	
21.1	21.3	21.5	21.6	21.8	22.0	22.2	22.3	22.5	22.7	22.8	23.0	23.2	23.4	
21.6	21.8	22.0	22.1	22.3	22.5	22.7	22.8	23.0	23.2	23.4	23.5	23.7	23.9	
22.1	22.3	22.5	22.6	22.8	23.0	23.2	23.3	23.5	23.7	23.9	24.0	24.2	24.4	
22.6	22.8	23.0	23.1	23.3	23.5	23.7	23.8	24.0	24.2	24.4	24.5	24.7	24.9	
23.1	23.3	23.5	23.6	23.8	24.0	24.2	24.3	24.5	24.7	24.9	25.0	25.2	25.4	
23.6	23.8	24.0	24.1	24.3	24.5	24.7	24.8	25.0	25.2	25.4	25.5	25.7	25.9	
24.1	24.3	24.5	24.6	24.8	25.0	25.2	25.3	25.5	25.7	25.8	26.0	26.2	26.4	
24.6	24.8	25.0	25.1	25.3	25.5	25.7	25.8	26.0	26.2	26.4	26.5	26.7	26.9	
25.1	25.3	25.5	25.6	25.8	26.0	26.2	26.3	26.5	26.7	26.9	27.0	27.2	27.4	
25.6	25.8	26.0	26.1	26.3	26.5	26.7	26.8	27.0	27.2	27.3	27.5	27.7	27.9	
26.1	26.3	26.5	26.6	26.8	27.0	27.2	27.3	27.5	27.7	27.8	28.0	28.2	28.4	
26.6	26.8	27.0	27.1	27.3	27.5	27.7	27.8	28.0	28.2	28.3	28.5	28.7	28.9	
27.1	27.3	27.5	27.6	27.8	28.0	28.2	28.3	28.5	28.7	28.8	29.0	29.2	29.4	
27.6	27.8	28.0	28.1	28.3	28.5	28.7	28.8	29.0	29.2	29.3	29.5	29.7	29.9	
28.1	28.3	28.5	28.6	28.8	29.0	29.2	29.3	29.5	29.7	29.8	30.0	30.2	30.4	
28.6	28.8	29.0	29.1	29.3	29.5	29.7	29.8	30.0	30.2	30.3	30.5	30.7	30.9	
29.1	29.3	29.5	29.6	29.8	30.0	30.2	30.3	30.5	30.7	30.8	31.0	31.2	31.4	
29.6	29.8	30.0	30.1	30.3	30.5	30.7	30.8	31.0	31.2	31.3	31.5	31.7	31.9	
30.1	30.3	30.5	30.6	30.8	31.0	31.2	31.3	31.5	31.7	31.8	32.0	32.2	32.4	
30.6	30.8	31.0	31.1	31.3	31.5	31.7	31.8	32.0	32.2	32.3	32.5	32.7	32.9	
31.1	31.3	31.5	31.6	31.8	32.0	32.2	32.3	32.5	32.7	32.8	33.0	33.2	33.4	
31.6	31.8	32.0	32.1	32.3	32.5	32.7	32.8	33.0	33.2	33.3	33.5	33.7	33.9	
32.1	32.3	32.5	32.6	32.8	33.0	33.2	33.3	33.5	33.7	33.8	34.0	34.2	34.4	
32.6	32.8	33.0	33.1	33.3	33.5	33.7	33.8	34.0	34.2	34.3	34.5	34.7	34.9	
33.1	33.3	33.5	33.6	33.8	34.0	34.2	34.3	34.5	34.7	34.8	35.0	35.2	35.4	
33.6	33.8	34.0	34.1	34.3	34.5	34.7	34.8	35.0	35.2	35.3	35.5	35.7	35.9	

ACTIVITY IN NEW RUSSIAN FIELDS.

THE success which has attended boring in the Gurieff district, and the discovery of important petroliferous areas in the neighbourhood of Binagadi, where hitherto but hand-boring was known, has led to considerable boring activity and exploration of the extensive oil-bearing territories of the Caspian Sea, which extend in a line passing through Tchelen, Kotur-Tepe, Neftiannaia Gora, and Buju-Dag, and extending over a distance of about 120 versts.

THE OILFIELDS OF BURMA.

Their History and Development.

Reprinted from
"Memoirs of the
Geological Survey
of India."
Volume XL, Part I.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

(Continued from page 208.)

BESIDES the primary "flow resistance" due to the size and shape of the rock-particles, there is probably a secondary "flow-resistance" caused by the separation of paraffin, which, in my opinion, may have had considerable influence upon the local distribution and flow of oil into wells. Mr. Jacobs, field manager of the Burma Oil Company, informed me that it was found disadvantageous to the life of a well to pump it dry every day, owing to the separation of paraffin within the bore-hole. By keeping a certain column of oil constantly in the hole, paraffination took place more slowly, though it was not prevented. Now oil flowing into a well would certainly tend to do so along certain channels where the porosity happened to be slightly greater. In some big spouters which spout large quantities of sand the channels would for some distance be actual cavities, but whatever their precise nature they would constitute a radiating group of lines of flow. As soon as a rich oil sand is tapped not only does the pressure rapidly diminish, but the gas and lighter hydrocarbons which play such a prominent part in keeping paraffin in solution are liberated first of all, and paraffin is deposited. Not only are dissolved gases such as methane (for a great deal of it is no doubt dissolved) liberated, but hydrocarbons like ethane and one or two of the members immediately above it in this group, which were partly or wholly liquefied, became at once vaporised. Both results affect a diminution in temperature, which in its turn would give rise to deposition of paraffin. No doubt the majority of it separates out in the bore hole itself, but it seems very probable that, considering the extent to which the Yenangyaung oil is saturated with paraffin, and the release of gas and diminution of pressure which must take place around the margins of the flow channels, that paraffination is not confined to the actual bore hole, but extends into the oil sand for some distance up these channels, and may give rise to imperfect barriers and interfere to a considerable extent with the flow of oil.

The separation of paraffin in the bore hole gives trouble by preventing the well from flowing, and most wells have to be periodically "cleaned" by having a drilling bit or sand pump passed down them. Sometimes a little pumping or compressed air, or, better still, natural gas, pumped down will disturb or dissolve the paraffin and set the well flowing again. It is not only disadvantageous to pump a well exhaustively, but the other extreme is equally deleterious, and a well allowed to lie fallow for some time loses its power of yielding. Deposition of paraffin is no doubt the cause of this also.

The flow of nearly all wells becomes intermittent. Even when the flow is continual the rate varies

periodically. Some of the wells, in which the pressure and volume of gas is great, flow steadily, or appear to do so, for some time, but an alternation of stronger and weaker flows soon becomes established, and these in time become differentiated into flows and periods of rest. The intervals between the flows vary very much, but are more or less regular. Mr. Seiple, field superintendent to the Burma Oil Company, tells me there are wells which flow every five minutes, others every fifteen minutes, and some only a few times in twenty-four hours.

If a flowing well be carefully watched the following sequence of events can be made out. A period of quiescence is succeeded by a rumbling noise and a burst of gassy oil from the casing or pipe. The rate of emission of oil increases steadily until a maximum velocity is reached, when there is an abrupt succession of jerks and jars, often severely shaking the pipe, and the oil flow is interrupted by violent bursts of gas which soon almost entirely replaces the oil. In many wells, especially in those which have been flowing for a little time, this gas phase is succeeded by a second oil phase, which, however, is interrupted and of much less intensity than the first. The flows become slower and quieter and soon cease altogether, nothing but small quantities of gas rising up the casing. The cycle is then repeated. The explanation of the process can be understood by reference to the diagram. The intermittency is a result of a cavity formed around the lower end of the well casing by the sand blown out after the boring has pierced the overlying clay cap. At the completion of a flow or spout the oil in the casing sinks very nearly to the base of the latter. Two processes now go on simultaneously, and combine to produce intermittency of flow. On the one hand, oil pours from all sides into the cavity and tends to raise the level of the little reservoir therein, while on the other hand, large quantities of gas, escaping from its effervescing surface, are imprisoned in the space between the cavity wall, the surface of the oil reservoir and the end of the casing, and produce a downward pressure tending to lower the surface of the reservoir and raise a corresponding amount of oil up the casing. This oil ultimately rises to the top of the well and flows out from the end of the casing. This ejection more than keeps pace with the accumulation of oil in the reservoir below, but affords practically no relief to the gas pressure. The latter becomes stronger and stronger even while the oil is flowing therefrom, and the velocity of the flow reaches a maximum just before the reservoir surface has sunk to the level of the end of the pipe and the gas given an opportunity of escaping. The gas does not escape in one operation, however, as the oil reservoir is being continually replenished and its surface raised again. The pressure

is relieved in stages and the oil flow interrupted by bursts of gas. These bursts become longer and longer in duration, and the interrupted oil flows shorter and shorter, until there is far more gas given off than oil, the latter being reduced to mere spray. The acute pressure is thus relieved. At this point, in wells where the supply of oil in the cavity bears a substantial proportion to the evolution of gas, before the pressure is sufficiently reduced to allow of a temporary period of quiescence, the escape of the gas is continually interrupted by oil rising in the reservoir above the lower end of the casing. These small columns of oil are ejected with dwindling force until the gas pressure is so reduced that for a brief period it is subordinate to the accumulation of oil in the reservoir, when the quiescent period commences, during which oil is being steadily forced up the casing.

Statistics on the important point of yield are very unsatisfactory. The yield which is carefully measured and recorded is the yield during the first twenty-four hours. In a pumped well this is usually about one and a-half times what it is during the second or third twenty-four hours: the latter obviously gives a more accurate impression of the rate at which the oil is draining into the well. The depth to which the oil sand is pierced is also another influencing factor, several of the wells not having reached the base. By boring another 50 or 60 ft. into the same sand the yield may be trebled. In the case of spouting wells, in some cases drilling has been continued by means of an "oil-saver" after the well has commenced to flow, and the oil sand well opened up; consequently the initial yield when measured and recorded is considerably greater than it would have been had the well been left alone as soon as it started spouting. Or, supposing a well is struck which has just sufficient force to flow, it is obviously misleading to compare its small recorded yield with that of another well which has not sufficient pressure to flow, but which, on being vigorously pumped, gives a rich yield. The yield of a feebly flowing well can be considerably increased by pumping. Flowing wells and pumped wells are, strictly speaking, not comparable. A device for restarting a well in which the gas pressure has dwindled to such an extent as to be no longer capable of lifting oil to the surface up, say, a 6-inch pipe, and causing the oil to flow, is to lower 2-inch tubing, with a packer at the bottom completely blocking the annular space between it and the 6-inch pipe: the accumulation of gas is then often sufficiently rapid to raise the oil up the 2-inch pipe, and the well commences to flow again.

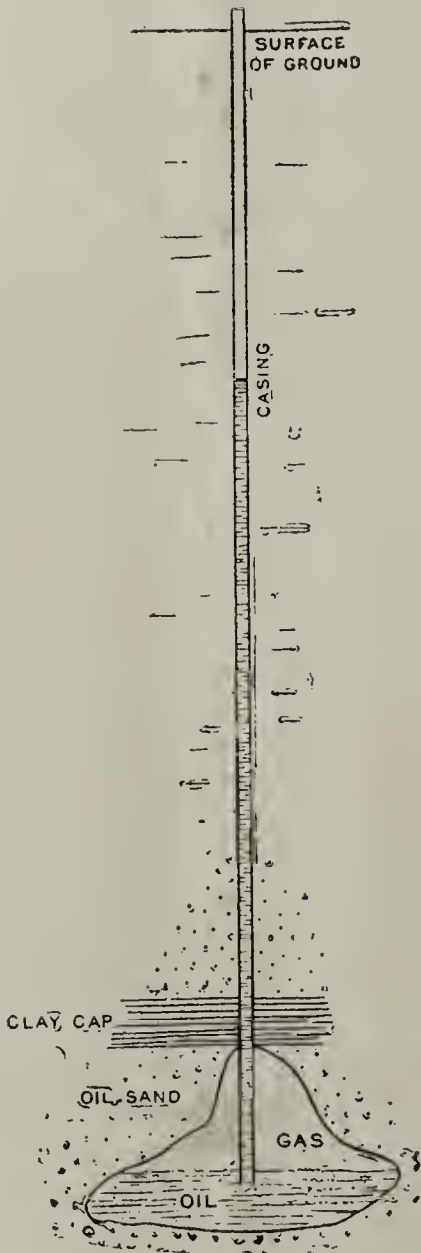
It will be seen how impossible it is to make any but the broadest deductions from the comparison of the yields of various wells. I am unable for this reason to accept Dr. Noetling's theory of zig-zag folds, based upon a classification of wells into poor, medium and rich producers.

With regard to the relation of the yield to the height

of water in the river, a rise in level, corresponding to an increase in hydrostatic pressure, should theoretically, and in all probability does actually, cause a small increase in the supply of oil, but this is impossible of proof here in the face of so many disturbing factors. The rise of the river was, before the laying of the pipeline, a signal for more oil to be taken out of the wells, for the simple reason that it could be loaded on to the "flats" or tank-barges with greater facility.

The richest well so far struck in Burma is the Burma Oil Company's No. 163 situated in the south of the Twingon Reserve. Oil in this well was struck in August, 1905, at a depth of 925-955 ft., and yielded during the first 24 hours, as far as it was possible to estimate the yield of a well out of control, something between 12,000 and 15,000 barrels. It was eventually "throttled" and drawn from to the extent of 2,000 barrels daily; in 1909 it was deepened.

(To be continued.)



THE PETROLEUM TRANSPORT TRADE ON THE VOLGA.

THE *Neflannoie Dielo* publishes some interesting data relating to the transport of petroleum products via the Caspian Sea to the Volga. The number of vessels owned by petroleum firms is sixty, with a total carrying capacity of 5,445,000 poods of oil. In the course of navigation it is expected that these vessels transport 244,125,000 poods of oil, but it is calculated that at least 288,000,000 poods of oil have to be transported during the course of the season, and therefore the producers have to charter other vessels for the purpose of transporting the remaining 43,875,000 poods of oil.

The freight for residues and crude oil for the present season is 3½ copecs per pood from Baku to Astrakhan. The freight for kerosene from Baku to Tzaritzin, which is higher up the Volga, is 7½ copecs per pood, whilst for crude oil it is 5 copecs per pood.

The chief exporters from Baku are Messrs. Nobel, who have exported 100,000,000 poods of oil; the Mazout Company, 75,000,000 poods; the Volga Company, 35,000,000 poods; the Eastern Company, 25,000,000 poods; and the Caspian Society

13,000,000 poods. Thus these five firms have exported 248,000,000, or 86 per cent. of the total quantity expected to be exported this season.

The freight from Astrakhan to various places on the Volga depends upon the distance, say to Nijni-Novgorod it is 2.9 copecs per pood, plus 5½ per cent. for fuel and leakage. Freight for the season is regulated by the price given by Nobel's, they being the largest exporters. Astrakhan is the chief port of delivery of all petroleum products transported from Baku to the interior of Russia.

The following products have been delivered, in the course of the season of navigation, for the four months up to July 1st (o.s.) this year from Baku to Astrakhan:—

	Residues.	Crude oil.	Refined oil.	Other products.
	Poods.	Poods.	Poods.	Poods.
March ...	11,474,462	2,847,784	2,715,313	448,263
April ...	25,012,946	8,132,446	7,628,234	1,637,470
May ...	26,472,061	5,421,720	6,759,649	1,778,281
June ...	28,290,437	7,185,950	7,131,514	1,085,085
	91,249,906	23,587,900	24,234,710	4,949,090

The total amount of all products delivered has been 144,021,615 poods,

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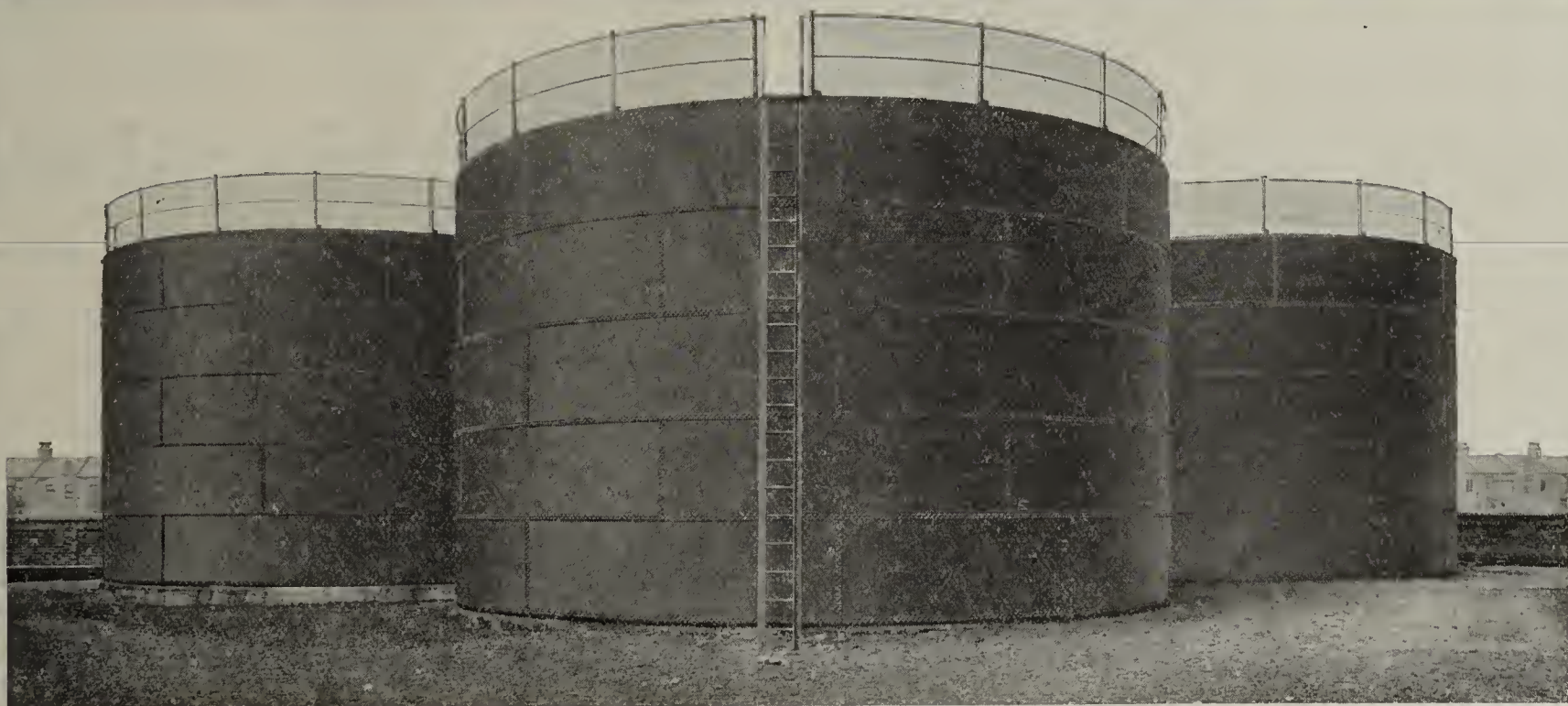
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LATEST QUOTATIONS OF PETROLEUM SHARES.

ENGLISH COMPANIES.

This list is restricted to companies who have paid dividends or who are producers.

Company.	Share Capital.	Value of Shares.	Latest Prices.
	£		
Anglo-Maikop Corporation...	650,000	£1	$\frac{1}{2}-\frac{9}{16}$
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{29}{32}-\frac{31}{32}$
„ 5% Deb. Stock ...	600,000	£100	86-90
Assam Oil ...	310,000	£1	$\frac{9}{16}-\frac{11}{16}$
Baku Russian Petroleum Co.	750,000	10/-	5/0-5/6
Bibi-Eibat Oil Co. ...	312,500	10/-	4/9-5/9
Californian Oilfields...	500,000	£1	$6\frac{1}{8}-6\frac{3}{8}$
European Oilfields ...	385,000	10/-	6/6-7/6
Lobitos Oilfields, Ltd. ...	400,000	£1	27/0-28/0
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{11}{16}-\frac{13}{16}$
Pacific Oilfields, Ltd. ...	250,000	£1	2/0-3/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	$1\frac{1}{32}-1\frac{3}{32}$
Russian Petroleum Co. ...		10/-	3/9-4/3
Schibaieff Petroleum, new Pref. (fully paid) s/s		—	$1\frac{3}{8}-1\frac{1}{2}$
„ „ new Ord.	575,000 s/s	(fully paid)	14/0-15/0
Shell Transport and Trading	2,500,000	£1	$5\frac{1}{2}-5\frac{3}{4}$
„ „ „	1,200,000 Pref.	£10	$10\frac{7}{8}-11\frac{1}{8}$
Spies Petroleum Co. ...	600,000	10/-	23/0-24/0

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	660	663
Caspian Society (Issue 1910) ...	1,000	2,825	2,875
A. I. Mantascheff & Co. ...	250	630	632
Nobel Bros....	5,000	17,050	17,100
Nobel Bros. (Issue 1912)...	—	875	877
Russian Naphtha Society	100	253	255
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	251 $\frac{1}{2}$	253
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	386	387 $\frac{1}{2}$

SCOTCH PRICES.

Supplied by Messrs. MACLEAN & HENDERSON, Stirling.

Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
British Australian Oil Co., Ltd. ...	300,000	£1	2/0
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	38/3
6% Cum. Pref.	100,000	£10	£11 $\frac{1}{8}$
Burmah Oil, Ord. ...	1,100,000	£1	74/9
„ Pref. ...	250,000	£1	25/4 $\frac{1}{2}$
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	8/9
Mexican Eagle Oil, Ltd.,			
Non. Cum. Pref. ...	\$8,500,000	\$10	46/3
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	36/9
Pref. (£1 paid) ...	100,000	£1	22/6
Premier Oil Ord. ...	2,300,000	£1	10/9
Pumpherstons Min. Oil Co., Ltd.			
Ord. (17/- paid) ..	110,500	17/-	5 $\frac{15}{16}$
6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	8/6
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	74/3
„ „ „ „ B „ Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).
Dordtsche Petroleum Industrie My., Ord. ...	Aand 185
„ „ „ „ Pref. ...	„ 186
Royal Dutch Petroleum Co. ...	„ 635
Moeara Enim Petroleum Maatschappij ...	„ 237
Perlak Petroleum Maatschappij ...	„ 56
Sumatra Palembang Petroleum Maatschappij	„ 238
Zuid Perlak Petroleum Maatschappij, Pref.	„ 53
Tarakan Petroleum Maatschappij ...	„ 100

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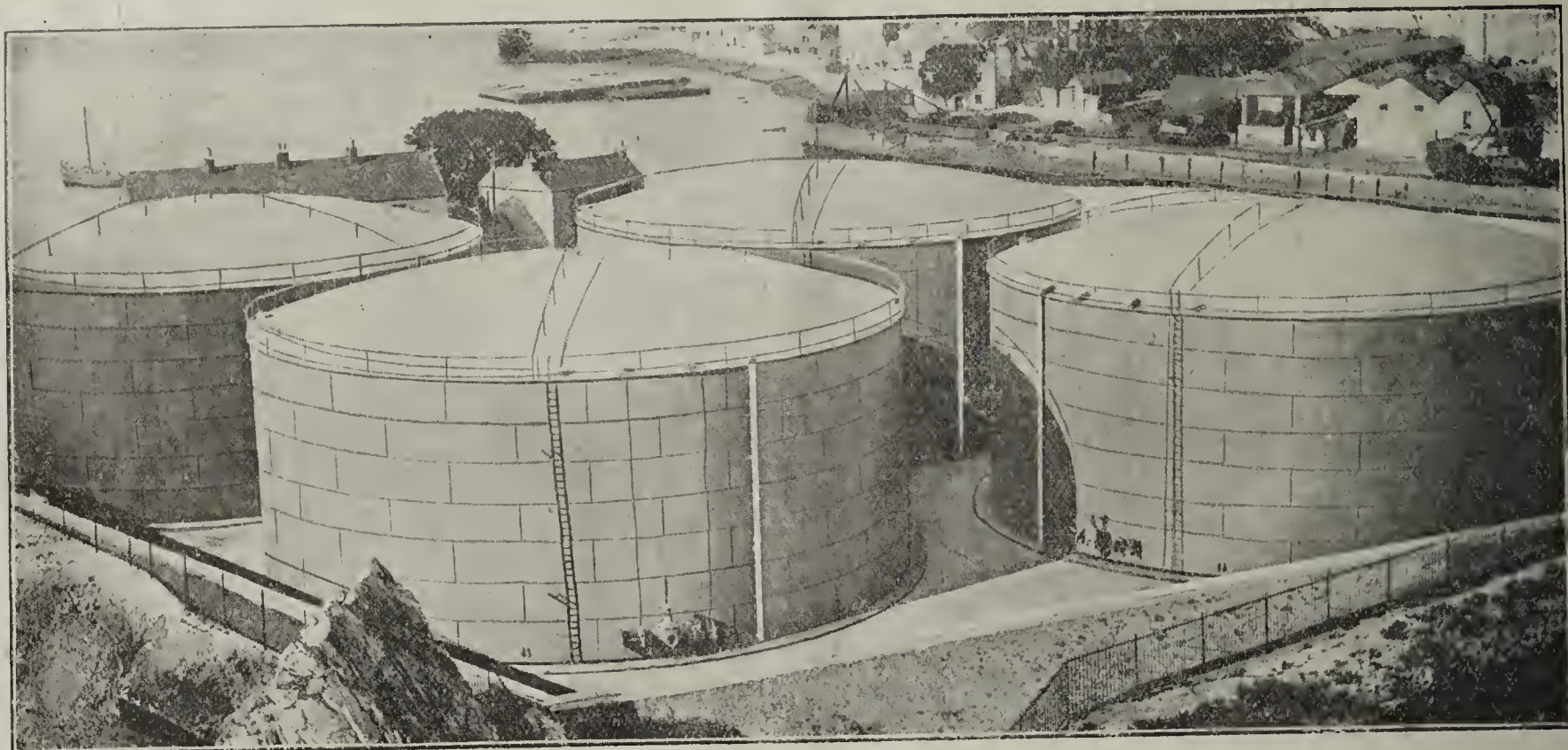
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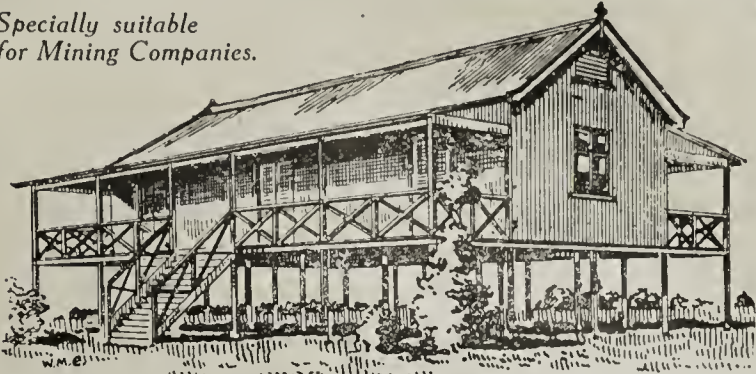
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CHIEF CONTENTS.

	PAGE
Editorial Notes	219
Production of English Companies in Russia	220
Developments in the Oilfields	221
Germany's Petroleum Import Trade	222
The Flash Point of Oils	223
The Oilfields of Burma	225
Latest Quotations of Petroleum Shares	228
A Reflection of Roumanian Prosperity	231
Classified Imports into the United Kingdom	232
Notes from the Oilfields	233
New English Companies	234
The Geology of the Mid-Continent Field of America	235
The Drilling of Gas and Oil Wells	237
Miscellanea	240
Home and Foreign Market Intelligence	242
The American Oil Market	243
Imports of Petroleum Products	244

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PETROLEUM REVIEW,

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SATURDAY, AUGUST 30TH, 1913.

A REFLECTION OF ROUMANIAN
PROSPERITY.

THE report which the "Steaua-Romana" is to
present to its shareholders at their annual meet-
ing within a few days is highly interesting from many
points of view, for it is a reflection of the progress
made in the Roumanian petroleum industry during
recent years. The balance-sheet represents the accounts
covering the eighteenth year of the activity of the
company, and the tenth year of re-organisation of the
concern since the German bank came to its rescue by
taking over the old company.

The capital of the Steaua-Romana consists of
50,000,000 lei, or about £2,000,000 sterling, and deben-
tures to the extent of 17,042,880 lei.

The book value of the assets in the form of wells,
refineries, pipelines, reservoirs, tank steamers, represents

99,905,178 lei, but the administration has always allowed an extraordinarily liberal percentage for amortisation, which, since the inception of the Company, has amounted to 58,691,484 lei. Thus the value of the assets in the balance-sheet represents 41,213,693 lei, the petroleum fields standing at 17,883,738 lei, less an amortisation of 6,898,798 lei. In other words, they are represented by a value of 10,984,940 lei. In addition to this the company has an enormous store of various materials, which are represented at 16,053,511 lei.

The production of crude oil by "Steaua-Romana" during the twelve months covered by the accounts was 403,008 tons, or a percentage of 25 of the total production of Roumania. The total quantity of crude oil which the company treated in its refinery for the year was 501,808 tons, and its total number of employees in the administration was 351 and 3,809 workmen.

The dividend declared for the past year is 10 per cent. on the capital, after providing a quite unusually large sum for amortisation. The total income was 17,477,164 lei, whilst the cost of the management of the refinery, etc., is represented by 1,140,995 lei; reserve and for pensions of the administration and workmen, 223,464 lei; duties and taxes, 397,755 lei; interest on debentures, etc., 887,682 lei; leaving a total income of 14,827,267 lei. Of this amount 9,739,537 lei has been written down for reserve, thus leaving to be distributed as dividend, together with last year's surplus, 5,880,579 lei.

With regard to the valuation of the land owned by the company at something like 11,000,000 lei, this figure is, of course, absolutely ridiculous in its lowness, as the value of the petroliferous land operated by the "Steaua-Romana" at present is, in our estimation, worth at least 100,000,000 lei, for they possess an enormous area in the best districts. The book value is taken at the price which they originally paid, when the quotations for land in Roumania were abnormally low, whereas at present they are quite the reverse.

We therefore think the board is doing quite right in increasing the company's capital to 100,000,000 lei, for even on this increased capital the directors can now very comfortably pay a handsome dividend.

The extension of the petroleum industry of Roumania has been the extension of the operations of the Steaua-Romana—one is reflected in the other—for the Steaua-Romana is admittedly the greatest operating concern in the country. Its production of crude oil for the last ten years and the quantity of products

treated at its refinery for that period are shown in the following table:—

		Crude oil production.		Quantity treated in the refinery.	
		Tons.		Tons.	
1903-4	...	184,608	...	175,483	...
1904-5	...	209,797	...	185,761	...
1905-6	...	218,473	...	229,416	...
1906-7	...	328,340	...	313,916	...
1907-8	...	335,954	...	391,815	...
1908-9	...	341,988	...	356,615	...
1909-10	...	447,021	...	465,969	...
1910-11	...	402,728	...	501,654	...
1911-12	...	420,767	...	446,427	...
1912-13	...	403,008	...	501,808	...
Totals	...	3,292,684	...	3,568,864	...

The total profits realised in the course of ten years have been no less a sum than 81,905,937 lei, and during this period there has been deducted for amortisation 56,691,484 lei, which represents $56\frac{3}{4}$ per cent. of the total value. There has been paid out in dividends during the same period 25,295,000 lei. With regard to the oilfields they have amortised 6,898,798 lei, or $38\frac{1}{2}$ per cent.

Such are the details from the balance-sheet of the foremost petroleum operating company in Roumania—details which eloquently speak not only of the progress and success which have been achieved by the company, but details which unmistakably point to the remunerative nature of Roumanian petroleum enterprises when such are conducted by men of experience and proved business ability.

THE KERN RIVER OILFIELDS OF CALIFORNIA, LTD.

Unsuccessful Negotiations to Acquire the Properties.

THERE has been a persistent rumour since the acquisition of the California Oilfields, Ltd., by the "Shell" interests that other influential Californian concerns were being negotiated for, among which the Kern River Oilfields of California was mentioned. We are now in receipt of the following official information upon this subject:—"The directors of the Kern River Oilfields have been in negotiation with an influential Oil group with regard to the disposal of the properties of the Kern River Company and those of the St. Helen's Petroleum Company, Ltd., but that the terms finally offered by the group were not considered sufficiently advantageous for the directors to recommend their acceptance by the shareholders."

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO AUGUST 25th, 1913.

[ALL RIGHTS RESERVED.]

IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Aug. 18.	From Jan. 1.	Since Aug. 18.	From Jan. 1.	Since Aug. 18.	From Jan. 1.	Since Aug. 18.	From Jan. 1.	Since Aug. 18.	From Jan. 1.	Since Aug. 18.	From Jan. 1.	Since Aug. 18.	From Jan. 1.	Since Aug. 18.	From Jan. 1.
Belgium ..	—	—	15,380	470,673	—	—	—	—	—	—	—	120	160	4,400	15,540	486,193
Canada ..	—	—	—	7,040	—	—	—	—	—	—	—	—	—	—	—	33,690
Dutch Indies ..	—	—	—	—	—	26,650	—	—	—	—	—	—	—	—	960,460	24,998,770
Germany ..	—	132,100	30,570	2,196,420	—	600	—	107,120	960,460	24,657,450	—	341,320	—	—	960,460	24,998,770
Holland ..	—	—	—	7,950	—	—	—	—	—	—	—	400	—	3,400	30,570	2,440,040
Mexico ..	—	4,001,740	—	—	—	—	—	—	372,000	5,001,234	—	—	590	—	372,000	5,010,880
Roumania ..	—	12,853,467	—	—	—	—	450,000	450,800	389,106	1,121,800	852,240	11,213,600	—	—	1,691,340	16,789,940
Russia ..	1,216,000	8,454,680	19,460	9,437,290	—	389,370	—	1,150,000	—	1,721,800	192,500	7,976,020	—	—	192,500	23,707,487
U.S.A. ..	1,438,670	66,736,986	601,320	31,534,774	—	157,340	35,680	40,641,760	780,170	10,601,760	—	—	—	—	2,015,630	28,888,960
Other Countries	—	80	740	94,590	—	480	—	—	—	15,251,800	2,389,730	8,810	691,085	—	2,084,480	157,392,835
	2,654,670	92,179,413	667,470	43,748,737	—	574,440	485,680	42,349,680	2,501,730	63,229,250	1,044,740	21,921,810	8,970	690,935	7,363,260	264,705,265

NOTES FROM THE OILFIELDS.

AMERICAN.

The Cushing Field.—The Cushing (Oklahoma) field is reported to be now producing about 30,000 barrels daily, of which the Prairie Oil and Gas Company is furnishing about 16,000 barrels.

Bradford's Deep Well.—The drillers of the deep well in the Bradford field are at present engaged upon fishing for lost tools at a depth of 5,660 ft.—a very difficult operation.

The Standard Company's Gusher.—The large well of the Standard Oil Company in the Sunset-Midway field is still keeping up an enormous flow estimated at 14,000 barrels daily. This is the greatest well since the famous Lake View was brought in.

A Great Gas Well.—The Honolulu Oil Company has completed a great gas well in the Buena Vista Hills, having a capacity of 20,000,000 cubic ft. per day. The gas is sold to the Midway Gas Company, which supplies Southern California.

Large Deal in Ventura Lands.—A large deal has recently been concluded in Ventura oil lands, between two and three thousand acres passing into the control of New York capitalists for a sum stated to be in excess of \$500,000.

Conference of Independent Marketers.—A conference of independent petroleum marketers will be held in Cleveland about the middle of next month, the headquarters being the Hotel Statler.

The Mid-Continental Field.—Reports from the mid-continental fields state that considerable difficulty is being experienced in drilling work owing to the extreme heat and general drought. A vast amount of work is, however, in hand, and it is believed that nearly one thousand wells are being drilled.

A Probable New Pool.—What looks like a new pool has been discovered in Osage, for a well has been drilled to a depth of 2,400 ft. and though only 3 ft. in the sand is producing nearly 150 barrels of crude oil daily. Drilling has been suspended in order to provide additional storage, as a spouter is expected.

RUSSIAN.

News from Tcheleken.—The production of petroleum on the Island of Tcheleken is expected to be slightly smaller this year than last year, but boring work continues to extend.

The Railway to the Emba-Caspian District.—Surveys are now being made for the extension of the railway from the Uralsk station to Gourieff, and when completed this railway will be of considerable assistance to that district.

Liquid Fuel Panic.—Users of liquid fuel, large and small manufacturers, as well as the railways, are in quite a state of panic owing to the high price of liquid fuel. Moreover, the present price of coal in Russia is also very high.

Liquid Fuel and the Russian Navy.—The Ministry of Trade and Industry has decided to allow the Russian Navy to obtain liquid fuel from the State stores on the same basis as it is now supplied to the railways.

A Liquid Fuel Deal at Kazan.—The Kazan State powder works have just now concluded the purchase of 845,000 poods of residuals and 43,500 poods of crude oil. The oil is bought from Nobel Bros. at a price of 58 copecs per pood for fuel and 63 copecs for crude oil.

Baku Exports.—During the first half of the present year, the exports of petroleum products from Baku both by sea and rail amounted to 194,966,000 poods. Of this quantity 42,989,000 poods was kerosene, 10,590,000 poods lubricating oil, 105,546,000 residuals, and 29,649,000 poods crude oil.

Grosny Production.—During the first half of this year, the output of the Grosny field has amounted to 35,947,000 poods of crude oil, this quantity having been obtained from 265 producing wells. During the same period 82,082 ft. have been bored in new wells, so great is the drilling activity.

Surakhany Production.—For the first five months of 1913, the 21 producing wells in Surakhany have produced 14,064,000 poods of crude oil and 139,000 poods of white oil, being a daily average of nearly 4,600 poods. For the same period the seven gas wells have produced gas equivalent to 800,000 poods of crude oil.

A Drilling Record.—Two wells—each producing—have recently been completed in the Beryl (Baku) district. Their depth is 1,400 ft., and they are finished with six-inch casing. One was drilled in sixteen days and the other in seventeen days with a Johnston rotary drilling machine. The wells are now producing 200 tons daily.

Peat and Technical Instruction.—In view of the growing deficiency in mineral fuel in Russia the Government has decided to commence the exploitation on an extensive scale of the rich State peat marshes. Special technical courses will be arranged at Moscow, and practical instruction to students of the same will be given at the centre of one of the largest peat marshes near Moscow.

Batoum Exports.—During July 3,300,000 poods of various petroleum products, of which 2,255,000 poods were illuminating oil, were exported from Batoum, the largest exporters being the Standard Oil Company. Of this quantity 939,000 poods were exported to England, and 416,000 poods to France, these two countries being the chief recipients.

To Terminate the Strike.—The managers of Messrs. Nobel's and Rothschild's enterprises in Bakn have given notice to their workmen that if by August 25th the strike has not been terminated, all the various increases in salaries, etc., will be recalled. A number of workmen having received satisfaction of their demands from other firms have started work.

Duty-Free Oil.—The permission of the Government to import crude oil into Russia, free of duty, in the opinion of those responsibly associated with the petroleum industry in Russia, will not affect the price of this commodity, as the prices prevailing all over the world for crude oil are so high that upon delivery in Russia it would cost still more than the present high price for Baku oils.

The Emba-Caspian District.—In June the crude oil exported from the Ural-Caspian Dossor district has been delivered to Astrakhan, and received by the Mazout Company from the Ural Caspian Company, and by Messrs. Nobel Bros. from the Société Emba. For June, 525,000 poods were received by the Mazout Company, and 143,000 poods by Nobel's. Until the refinery, which is being constructed at Rakucha, is ready, the crude oil has to be delivered direct to Astrakhan, and it is expected that in the course of navigation about 3,000,000 poods of Emba crude oil will be delivered.

ROUMANIAN.

The Production.—The production of crude oil is maintained at approximately 5,000 tons per day. Operations on the fields have now assumed their normal aspect.

The Steaua-Romana to Increase its Capital.—A general meeting of the Steaua-Romana is to be held on September 8th, at which a motion will be submitted increasing the capital of the company from 50,000,000 to 100,000,000 francs. At the same meeting the dividend to be distributed is on the basis of 10 per cent.

July Production.—The total production of crude oil during July amounted to 149,568 tons, as compared with 165,000 tons produced in June. The Astra-Romana produced the largest quantity of any individual firm, its month's total being 36,080 tons, and that of the Steaua-Romana, 32,470 tons. During the month, the Romana-Americana produced 29,481 tons.

Prices.—There has recently been a decrease in crude oil prices, Bushtenari crude now being quoted at 7 to 7.20 francs per 11 kilos. Other crudes have dropped in proportion. Prices for export, however, are being well maintained, excepting for benzine which is somewhat lower in price, all grades having been reduced 5 francs per ton.

NEW ENGLISH COMPANIES.

THE AMATLAN (MEXICO) PETROLEUM SYNDICATE, LTD.

REGISTERED on August 21st, by Wilkinson, Howlett & Wilkinson, 14, Bedford Street, W.C. Capital, £100,000, in £1 shares. Objects: To enter into an agreement with Richmond Levering and Henry John Burton, to purchase or otherwise acquire all kinds of oil-bearing lands and properties, wells and mines, etc., and particularly any rights connected with the winning and getting of petroleum and all kinds of mineral oils; and also to carry on business as extractors, pumpers, drawers, transporters and dealers in petroleum and other mineral oils. Minimum cash subscription: 5 per cent. of the nominal amount of the share. First directors (to number not less than three or more than seven) are Richmond Levering, 1, Liberty Street, New York City; Henry Dixon Morrison, 44, Avenue Road, Regent's Park, N.W.; and Charles Baker, Lennox House, Norfolk Street, W.C. Qualification: 250 ordinary shares.

NEW CAUCASIAN OILFIELDS, LTD.

Registered on August 21st, by Mayo, Elder & Co., 10, Drapers' Gardens, E.C. Capital, £100, in 10s. shares. Objects: To purchase or otherwise acquire oil-bearing lands, and to prospect for, work and develop petroleum and other oil lands; and to carry on the business of oil, naphtha and petroleum refiners. Minimum cash subscription: Seven shares. First directors (to number not less than two or more than seven) are to be appointed by signatories. Signatories: Charles F. Riley, 168, Sheringham Avenue, Manor Park, E.; Percy V. Kenney, 133, Rusthall Avenue, Bedford Park, W.; Edward L. Cizens, 2, Forest Villas, Walpole Road, South Woodford; Charles T. Browning, 87, Riversdale Road, Highbury, N.; Charles T. Tivort, 87, Holindene Avenue, Herne Hill, S.E.; Frank A. Saxon, 58, Percy Road, North Finchley, N.; and Thomas Midgley, 12, Banyard Road, S.E. Qualification of directors: £250. Remuneration: £200 per annum (chairman, £300 per annum).

TRINIDAD LEASEHOLDS, LTD.

Registered on August 20th, by Ingle, Holmes, Sons & Pott, Capel House, E.C. Capital, £550,000 in £1 shares. Objects: To purchase or otherwise acquire petroleum or oil-bearing lands in Trinidad, or any rights connected with the winning and getting of petroleum or other oils, and to acquire a Government lease for mining for oil under certain Crown lands, and to sink wells, make borings, and to search for petroleum and other mineral oils, with a view thereto to enter into the two following agreements:—(1) With the Central Mining and Investment Corporation, Ltd., and (2) with the Crown Agents for the Colonies: and also to carry on business as dealers and refiners of petroleum and other mineral oils. Minimum cash subscription: Seven shares. First directors (to number not less than three or more than seven) are to

be appointed by signatories. Signatories: Harold Green, "Carleton," 3, Eastfields Road, Acton; W. J. Rose, 97, Seven Sisters Road, Holloway, N.; R. P. Nelson, "Oaklea," Priest's Lane, Shenfield, Essex; E. T. Hesse, 10, Campden Road, South Croydon; R. A. Macqueen, 18, Marchmont Road, Richmond, Surrey; C. Field, 20, Adelaide Road, Brockley, S.E.; Francis Cam, 58, Elm Road, New Malden, Surrey. Qualification of directors: 250 shares. Remuneration of directors: £100 per annum (chairman, £150 extra).

ECONOMIN SYNDICATE, LTD.

Registered on August 22nd, by Michael Abrahams, Sons & Co., 5, Tokenhouse Yard, E.C. Capital, £2,000, in £1 shares. Objects: To carry on the business of exporters of and dealers in all kinds of motor spirit, petroleum, shale oil, mineral, animal, and vegetable oils, spirits and naphtha, etc. Private company. Signatories: William John Wood, 6, Old Jewry, E.C., and Henry Thomas Woodard, 19, Valetta Road, Acton Vale, W. Registered office: 6, Old Jewry, E.C.

THE NORTH MALAYA EXPLOITATION COMPANY, LTD.

Registered on August 19th, by Edward S. M. Perowne, 10, Coleman Street, E.C. Capital, £50,000, in £1 shares. Objects: To prospect, explore, and test ground supposed to contain naphtha, petroleum and other oils, and to sink wells for that purpose, and also to render the same merchantable and fit for use. Minimum cash subscription: Seven shares. First directors (to number not less than three or more than seven) are to be appointed by signatories. Signatories: E. L. Bennett, 10, Belsize Grove, N.W.; S. H. Phillips, 42, Marlborough Road, Wimbledon Park, S.W.; H. V. G. Long, Osborne House, Brockley Park, S.E.; G. Evans, "Orchards," Oxshott; I. Trustham, 37, Preston Road, Leytonstone; E. S. M. Perowne, 10, Coleman Street, E.C.; and George T. Heard, "Holmwood," Devonshire Road, Merton, Surrey. One share each. Qualification of directors: £100. Remuneration of directors: £100 per annum (chairman, £50 extra).

ANGLO-MEXICAN AND BRAZILIAN OPTIONS, LTD.

Registered on August 22nd, by F. Walker & Co., 68, Coleman Street, E.C. Capital, £50,000, in 10s. shares. Objects: To purchase or otherwise acquire all kinds of oil-bearing lands in Mexico or elsewhere, and grants and claims connected with the winning and getting of mineral oil, and to prospect for, work, and develop oil and other lands. Private company. First directors (to number not less than two or more than five) are to be appointed by signatories. Signatories: Percy Charles Andrews, 105, Belgrave Road, Wanstead, Essex; and Charles H. Radcliffe, 6, Darnley Road, Holland Park, N. Qualification of directors: 200 shares. Remuneration of directors: £100 per annum (chairman, £150). Registered office: 6, Broad Street Place, E.C.

The Geology of the Mid-Continent Field of America.

By Mr. C. N. GOULD.

THE twelfth meeting of the International Geological Congress has been held this month in Toronto, Ontario. The congress was composed of geologists from many countries. Its last session was in Stockholm, Sweden. On Tuesday, August 12th, C. N. Gould, of Oklahoma City, Okla., delivered an address before the congress on the subject of "The Occurrence of Petroleum and Natural Gas in the Mid-Continent Field," which is given fully below:

The Mid-Continent oilfield, as the term is generally used, includes an area approximately 200 miles long from north to south and 100 miles wide, located in south-eastern Kansas and eastern Oklahoma. The limits of the productive field have not yet been sharply demarked, and probably will not be for many years. The most northern point at which oil has been found in quantity is near Paola, Kansas, some fifty miles south-west of Kansas City. The most northern point is near Coalgate, Oklahoma. The south-eastern part of the Mid-Continent field extends from Oklahoma into the region of Fort Smith, Ark. The Western-most limit, as at present developed, is at Blackwell, Kay county, Oklahoma. The area within which oil and gas has been found, in commercial quantities, contains approximately 20,000 square miles. In this area are included some twenty counties in Oklahoma, and eleven counties in Kansas.

The rocks in which the hydrocarbons occur throughout the two States, consists entirely of sediments of Pennsylvanian age, which lie, unusually unconformably, above the Boone Chert, a limestone of Mississippian age. The limestone, which is popularly known to the oil men as "the Mississippi Lime," outcrops on the surface in the region east of Grand river, in north-eastern Oklahoma and south-eastern Kansas. The Pennsylvanian formations, as exposed in the Mid-Continent field, consist of an alternating series of sandstones, shales and limestones with an occasional bed of coal. Throughout northern Oklahoma and Kansas the Pennsylvanian rocks dip west at rather constant angles, varying from 50 ft. to the mile near the eastern exposure, to less than 20 ft. to the mile in the western part of the area. In the southern part of the Mid-Continent field the rocks have been folded into a series of anticlines and synclines.

On passing south and west from the region of the exposure of the Boone Chert, the Pennsylvania sediments thicken rapidly, particularly in the basal portion of the series. This fact may be illustrated by comparing the thickness of the Cherokee shales, the lowermost formation of Pennsylvanian age, which lies below the Fort Scott limestone in various parts of the area. In southern Kansas the thickness of the Cherokee shales approximates 450 ft. On passing southward the Pennsylvanian rocks, below the Fort Scott limestone, thicken gradually until, in the region of

McAlester, in east-central Oklahoma, the combined thickness of the Pennsylvanian sediments, below the Calvin sandstone, which is the approximate southern equivalent of the Fort Scott limestone, aggregates 10,000 ft.

In southern Kansas a considerable part of the rocks of the Pennsylvanian series consists of limestone. On passing south into Oklahoma, the various limestones gradually become thinner and many of them disappear, while sandstones become more and more prominent, and shales become relatively thicker. A cross section of the Pennsylvanian series, taken 50 miles north of the Kansas line, would show that at that place more than one-fourth the thickness of the Pennsylvanian sediments consists of limestone. A cross section taken at Tulsa, Okla., 60 miles south of the Kansas-Oklahoma line, would demonstrate that here not one-twentieth of the thickness of the series is composed of limestone.

The petroleum and natural gas found in the Mid-Continent field occurs universally in ledges of sandstones, which occur inter-stratified with shales and limestones. In the great majority of cases the stratum lying above the oil-bearing sand; that is to say, the cap rock which holds the oil down, is shale, but in a few instances, it is limestone. All the oil sands in the Mid-Continent field are more or less lenticular. Some of the more persistent of the sands, as for instance the Bartlesville sand and the Wayside sand, are believed to occupy an area of several thousand square miles, while others are but a few square miles in area. Even the most persistent of the sands, however, often vary much in thickness, even in short distances.

The term "pool" is applied to a small area from which oil or gas has been produced. The size of a pool in the Mid-Continent field varies from a fraction of a square mile to several square miles. For instance, the Flat Rock pool, near Tulsa, Okla., is two miles long and one mile wide. Glenn pool is twelve miles long and five miles wide. Hamilton Switch pool occupies less than a square mile. The size, shape, and location of the various pools differ materially in different parts of the Mid-Continent field. At the present time, there are more than eighty separate pools in the Mid-Continent field, and new ones are constantly coming to light.

More than three-fourths of the oil and gas so far produced in the Mid-Continent field has come from ledges of sandstone contained in the Cherokee shales, which, as stated above, occupy the basal portion of the Pennsylvanian series in Oklahoma and Kansas. Many of the oil-bearing sands have received local names, such as Bartlesville, Tucker, Burgess, Glenn, Taneha, Dutcher, Layton and Cleveland.

It is believed that the oil-bearing sands outcrop on the surface in south-eastern Kansas and eastern Oklahoma, in the region about midway between the

exposures of the Boone Chert and the Fort Scott limestone, where they make up a row of timber-covered hills and ridges. These sandstones disappear to the westward beneath overlying limestones and shales. In the shallow field, in eastern Nowata county, these sands occur at depths varying from 300 to 800 feet beneath the surface. The local name here applied is usually that of the pool in which they were first encountered, as Alluwe, Coody's Bluff and Childers sands. In the vicinity of Bartlesville and Tulsa these sands lie at depths varying from 1,200 to 2,000 feet beneath the surface. In the Cleveland pool the same sands are 2,700 feet deep.

Above the horizon of the Fort Scott limestone, which is known to the driller as the "Oswego lime," there are a number of sands which, in the western part of the Mid-Continent field, have yielded considerable quantities of oil and gas. In Washington and Osage counties, in northern Oklahoma and Chautauqua and Montgomery counties, in southern Kansas, much of the oil has been obtained from two sands known to the driller as the Wayside and the Peru sands, which here occur at from 600 to 800 feet beneath the surface. Both of these sands lie above the Fort Scott limestone. The Layton and Cleveland sands found in the Cleveland and Cushing pools, are at the approximate horizon of the Peru and Wayside sands. The oil and gas in the Ponca City pool and the gas in the Blackwell pool, which pools lie at a higher level geologically than any of the other oil pools in Oklahoma, come from sands still higher in the Pennsylvania series than the Layton and Cleveland sands. In addition to the sands mentioned above, which are usually quite persistent, and are believed to occur in a number of separate pools, there are in the Mid-Continent field many so-called "stray sands"; that is to say, sands containing oil and gas, which seem to have a limited areal extent.

In many of the pools throughout this region, there is but one producing oil sand, while in others there are several sands. For instance, in the vicinity of the world-famous Glenn pool, which, during the past six years has produced 120,000,000 barrels of oil, there are four producing sands, known as the Red Fork sand, which lies at a depth of 1,300 ft., the Glenn sand at 1,500 ft., the Taneha sand at 1,700 ft., and the Dutcher sand at 2,200 ft. In the Bartlesville field there are eight productive oil sands, as follows:

Un-named sand at	...	...	250 ft.
Un-named sand	...	...	400 "
Wayside sand	...	...	650 "
Peru sand	...	...	825 "
Oswego sand...	...	...	1,000 "
Squirrel sand	...	...	1,100 "
Bartlesville sand	...	...	1,250 "
Burgess sand...	...	...	1,300 "

In some instances in the Bartlesville region as many as four of these sands have been found productive on the same property, and it is a common occurrence for two of them to produce oil. In the Cleveland field there are five producing sands, in the Cushing field five, and in the Ponca City field seven sands, that produce oil or gas in commercial quantities.

As has been stated above, all the sands in the Mid-Continent field are more or less lenticular, and often thicken and thin rapidly in short distances. Not enough drilling has yet been done throughout the

region to demonstrate, with certainty, the continuity of the various sands. To cite a specific example, most oil men and most geologists who have studied conditions, now believe that the Bartlesville sand, which has produced such immense quantities of oil in northern Oklahoma, extends uninterruptedly from southern Kansas, through Washington and Osage counties, Oklahoma, as far as the Bird Creek and Flat Rock fields, near Tulsa. The same sand is also supposed to occur at Cleveland. In other words, according to the common acceptance, the Bartlesville sand is believed to be continuous over an area of more than 5,000 square miles.

In point of fact, however, no one knows, with certainty, that this condition is true. It is not possible in the light of present knowledge to either prove or disprove the assertions. No one can be certain that the sand which contains oil or gas at a depth of about 1,100 ft., near Independence, Kan., is the same sand which contains oil at 1,200 ft. at Bartlesville, and at 1,300 ft. in the Flat Rock field, near Tulsa, and at 2,400 ft. at Cleveland. Sufficient investigations have been made, however, to demonstrate that it is approximately certain that the oil-producing sands in these four widely separated localities, occurring at the depths mentioned, are situated at about the same geological horizon. Taking into account, however, the known lenticular nature of all the Pennsylvanian sands in the region, it is as yet too early to make a definite prediction as to the continuity of this, or, in fact, of any other sand in the Mid-Continent field. It is quite possible that further development will demonstrate the fact that, throughout this region, various lenticular sands appear and disappear, and that the Bartlesville sand, so called, is by no means continuous.

The two dominant factors which appear to govern the accumulation of petroleum and natural gas in the Mid-Continent field are—

- First: The thickness of the oil sands, and
- Second: The structure of the rocks.

It goes without saying that, other things being equal, the thicker the sand the more oil will be contained therein. The Glenn pool, one of the most noted in the world, owes its prominence largely to the fact that, at this place, the Glenn sand averages from 75 to 100 ft. in thickness, thus providing an immense reservoir for the storage of petroleum. The Bartlesville sand averages from 50 to 60 ft. thick, and from it scores of millions of barrels of oil have been produced. The Cleveland sand, which is a thick sand also, has produced a vast amount of petroleum.

On the other hand, many sands, as for instance the Wayside, Peru, Childers, Alluwe and others, which average 20 to 40 ft. thick, have produced relatively smaller amounts of oil. Generally speaking, the wells in the thicker sands have initial productions varying from 100 to 1,500 barrels of oil per day, and settle after two to three years to 20 to 100 barrels per day. The wells in the thinner sands usually have initial productions of from 20 to 300 barrels per day and settle to 5 to 20 barrels per day. Thus it will be seen that, other things being equal, it is very much more profitable to operate the thicker sands. It must be remembered, however, that in many cases the thinner sands are comparatively shallow, occurring at depths of from 300 to 1,000 ft., while the thick sands usually lie at depths varying from 1,200 to 3,000 ft. beneath the surface.

(To be concluded.)

The Drilling of Gas and Oil Wells. PROPOSED REGULATIONS FOR AMERICA.

By Messrs. O. P. HOOD and A. G. HEGGEM.

*An Informative -
Bulletin by the -
Washington - - -
Bureau of - - -
Mines. - - -*

THE Bureau of Mines has been asked by various State officers and individuals for suggestions and opinions regarding problems of safety involved in the interrelation of gas and oil wells and coal mines. No standard practice has been developed detailing the design and construction of wells through coal beds that are being mined or that may soon be mined, nor has there always been general agreement as to just what dangers should be avoided. Reasonable uniformity in legislation in the several States as to the manner of treating the fundamental problems is desirable.

That there might be available such information as should lead to greater safety the director of the Bureau of Mines arranged conferences of the several interests. Separate conferences with men representing the coal mines, the gas wells, and the oil wells, and with State geologists, led to a general conference February 7th and 8th, 1913. At this conference representatives of the Bureau of Mines presented a general discussion of the problem, including illustrations of mine troubles due to the proximity of gas and oil wells to mines, and tentative suggestions for legal regulation of bore holes passing through workable beds of coal. The proceedings of this conference have been published in Bulletin 65 of the Bureau of Mines.

The tentative regulations proposed by the bureau were referred to a committee of twenty. This was composed of three members from each of the following interests:—Coal, natural gas, petroleum, State geologists, State mine inspectors, and the Bureau of Mines. To these eighteen were added the president and the secretary of the conference. This committee met March 1st and March 10th, and presented a revised report to the general conference which was called together March 11th. A general invitation was issued to all persons interested to attend the final general conference, at which the attendance, though not large, was representative and evinced active interest. The proposed regulations drafted by this conference are in the form of an outline of desirable legislation. The outline may be developed in legal form in each State to meet the needs of the several industries affected and the differing forms of State control.

Following the outline are presented comments that give the results of the general discussion and the reasons for some of the suggestions in the outlined legislation.

The conference did not attempt to draft the outline in legal form and phraseology. However, the intent and meaning of the conference is sufficiently set forth to form the basis for a more formal expression.

The draft of the proposed regulations follows:—

REGULATIONS to provide for the location, drilling, casing, protecting, operating, abandoning, plugging, and filling of natural gas and petroleum wells, and for the protection and preservation of life and property, especially in and about coal mines in gas and oil regions, creating the office of chief inspector

of natural gas and petroleum wells, and providing penalties for the violation of these regulations.

ARTICLE I.—DEFINITIONS.

SECTION 1. For the purposes of these regulations the definitions of the terms contained herein shall be as follows:—

WELL.—A borehole drilled for the purpose of developing natural gas or petroleum, or a borehole producing natural gas or petroleum.

WELL OPERATOR.—Any person, persons, firm, partnership, corporation, company, or association, that drills, operates, or abandons, or purposes to drill, operate, or abandon such well as hereinbefore defined.

COAL OPERATOR.—Any person, persons, firm, partnership, corporation, company, or association, owning, leasing, or operating coal mines, or coal properties, not including coal-stripping operations.

PLAT.—A map, drawing, or print, made in accordance with the provisions of these regulations, as hereinafter contained.

CASING.—The pipe commonly used within wells drilled for natural gas and petroleum. The sizes of casing refer to nominal commercial dimensions.

CEMENT MORTAR.—Cement mortar shall consist of one part of Portland cement and two parts of clean sand, mixed with sufficient water.

COAL BED.—A workable bed or seam of coal that may be mined during the reasonable life of a well proposed to be drilled through it.

WELL INSPECTOR.—The chief inspector of natural gas and petroleum wells, or his duly authorised deputy.

ARTICLE II.—LOCATION OF WELL.

SECTION 1. When a location for a well has been made, the well operator shall make application in writing to the chief well inspector for a licence to drill, and shall send therewith a description and plat in duplicate of the proposed location.

SECTION 2. The location shall be determined by survey, and the description and plat shall give the courses and distances from two permanent points on the boundaries of the tract of land on which the proposed well is to be located, together with the name of the tract of land, names of adjoining tracts, township, or district, and county.

SECTION 3. The well operator shall send to the coal operator, if known, and to the State coal-mine inspector, a copy of the description and plat filed with the chief well inspector.

SECTION 4. Immediately on receipt of the plat the coal operator shall verify the well location and mail to the well operator a plat showing the present and proposed mine workings under the tract of land on which the proposed well is to be located.

SECTION 5. The licence to drill shall issue immediately on the expiration of five days (excluding legal holidays) after the application and the plat of location have been received by the well inspector, unless he makes complaint or shall have received notice of complaint during that time.

SECTION 6. If notice of complaint is made by or served on the well inspector within the said five days, then it shall be the duty of the well inspector to confer with the several interests, including the State mine inspector, the coal operator, the well operator, and, where possible, the owner of the land and the owner of the royalty interest, and designate, within ten days of the receipt of the application for licence, a suitable location for the well, or, if no well can be drilled on the premises because of conditions hereunder specified, refuse to issue a licence to drill.

SECTION 7. If the well is re-located, a re-survey shall be made by the well operator, and a corrected description and plat shall be mailed as previously required.

SECTION 8. Each coal operator shall furnish annually to the well inspector a plat of all of his present and immediately

projected mining operations within the State, showing the location of all known wells. The coal operator shall also, if so requested, furnish to any well operator a plat of the mine under the property leased, owned, or operated by the said well operator.

SECTION 9. No well shall be located within three hundred (300) feet of a hoisting or air shaft, slope, or drift into an artificially ventilated coal mine that has not been definitely abandoned or sealed, nor shall such well be located within three hundred (300) feet of any mine shaft house, boiler house, engine house, power house, mine fan, or mine tippie, unless such structure has been abandoned.

SECTION 10. No well shall be drilled within fifteen (15) feet of any underground haulage way, travelling way, drainage way, or airway.

SECTION 11. It shall be the duty of the chief well inspector to issue the licence in duplicate, and the well operator shall display at the location one copy of the licence properly protected from injury, and in such place and manner that it may be easily seen.

SECTION 12. The licence shall expire at the end of one year from the date of issue unless drilling operations are actually in progress.

ARTICLE III.—MANNER OF DRILLING AND PROTECTING WELL.

SECTION 1. Each well passing through a workable bed of coal shall be drilled, cased, and protected in the manner hereinafter provided:—

(A) Where the coal is in place.—A hole of a diameter of six (6) inches greater than the inside diameter of the outside casing to be put through the coal shall be drilled at least thirty (30) feet below the bottom of said coal bed. Within this hole shall be placed the casing, and the space between the outside of said casing and the wall of the hole shall be filled with cement mortar, or puddled clay, to a height of at least thirty (30) feet above the top of said coal bed, to exclude water from the coal bed.

(B) Where the coal has been removed and the mine excavation is inaccessible.—A hole of a diameter sufficiently large to permit

the insertion of a liner four (4) inches larger in diameter than the inside diameter of the casing to be put through the coal shall be drilled at least thirty (30) feet below the bottom of said coal bed. Within this hole shall be placed a liner four (4) inches larger than the inside diameter of the said casing and extending from the bottom of said hole to at least thirty (30) feet above the mine roof. A string of casing centrally guided by shoes or winged guides shall be placed within the said liner and the space between the liner and the casing shall be filled with cement mortar or puddled clay to the top of the liner. To exclude water, the space between the said casing and the wall of the hole and immediately above the top of the liner shall be filled a distance of at least ten (10) feet with cement mortar or puddled clay.

(c) Where the coal has been removed and the mine excavation is accessible.—The method may be as provided in either paragraph (A) or paragraph (B) of this section, provided that if the method prescribed in paragraph (A) be chosen the well operator shall at his own expense provide a suitable retaining wall laid in cement mortar to retain the cement mortar or puddled clay about the casing. Said wall shall extend from two (2) feet below the mine floor to the roof of the mine, and shall be of such size as to retain at least two (2) inches of puddled clay or cement mortar about the said casing.

SECTION 2. The well operator, on completion of the work of casing through a coal bed, shall make an affidavit, signed by two men having at least three years' experience in casing wells, as to the method of casing and protecting the well, said affidavit to be filed with the chief well inspector.

SECTION 3. Under any of the above provisions the work of casing and protecting from gas and water through the coal bed shall be completed before the well is drilled to a greater depth; and in the event of any well being productive of oil or gas, the space between the said outside casing and the next string of such other casing as may be left in shall remain open, the top being provided with a suitable device to permit ventilation and at the same time to prevent dirt or debris from falling in, or being thrown in, or the ventilating opening from being readily closed.

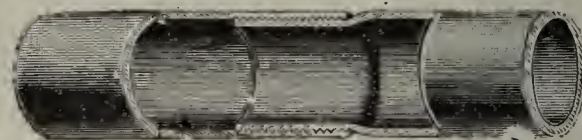
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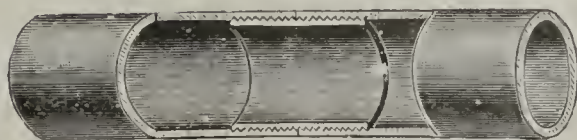
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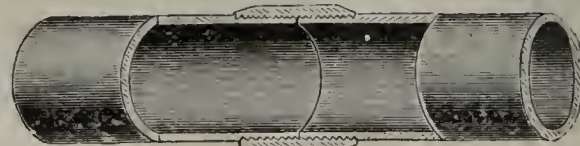
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MISCELLANEA.

RUSSIA AGREES TO THE FREE IMPORT OF PETROLEUM.

THE Council of Ministers, at Petersburg, have decided, in view of the strike in Baku and also the high prices for petroleum, to allow the import free of duty of petroleum from other countries. They have also decided to acquire 50,000,000 poods of foreign coal, also to be imported free of duty. In addition to this they have decided to remove the duty on 22,000,000 poods of foreign imported coal which has been purchased in June, as well as in regard to the 10,000,000 poods of coal the Vladi-Caucasus Railway Company has received the right to acquire.

EXPLORATION IN THE PHILIPPINE ISLANDS

IT is reported that explorations for petroleum continue in the Tayabas oilfields of the Philippine islands. Drilling by private owners of claims has been suspended for the present, but Government experts as well as private prospectors are actively surveying the region. The Government, it is stated, proposes to drill for oil in certain of the more favoured locations, and has offered the private owners of claims to drill in exchange for setting aside a certain proportion of each claim drilled on in order to reimburse the Government in case a successful boring is put down.

A BURNING LOUISIANA OIL GUSHER.

THE greatest oil well struck in Louisiana is now on fire. It was brought into production early in the present month at Mooringsport, Louisiana, by the Star Oil Company, and at first started flowing 2,500 barrels daily, but it rapidly increased until its output was over 15,000 barrels daily. After producing for two days at this rate, the well caught fire, and the latest reports are that it is still burning despite the efforts to destroy the fire by the use of steam. A meeting of the oil producers has been held to see what can best be done, and the outcome of this is that Mr. J. A. Todd, the superintendent of the Standard Oil Company, and Mr. H. A. Malet, of the Gulf Refining Company, have charge of the situation. With few exceptions all companies in the field have shut down operations in order that their boilers might be removed to the scene of the burning well, so that a strong pressure of live steam could be applied to it. The flames are stated to be noticeable over a distance of thirty miles.

GALICIAN PRODUCTION FOR JULY.

THE total production of crude oil in Galicia during July was as under:—Tustanowice, 61,035 tons, Boryslaw, 17,375 tons, making a total of 78,410 tons.

The largest production was obtained from the following wells in the Tustanowice field:—"Marieya," 2,762 tons; "Lilliom," 2,637 tons; "Rockefeller," 2,607 tons; "Dorrit," 2,235 tons; "Naphta," 2,235 tons; "Las," 2,620 tons; "Marta," 1,467 tons; "Matkowski," 1,225 tons; "Dabrovo," 1,105 tons; "Marceli,"

1,230 tons; "Feuerstein," 1,555 tons; "Tryumph," 1,045 tons.

The total number of productive wells in the Tustanowice district is 152, and therefore 140 other wells are responsible for a production of 38,312 tons, or an average of about 275 tons per well for the month. With regard to Boryslaw, the outputs of the chief producing wells for the month were as follows:—"Johanna II.," 1,637 tons; "Tryumph Albert," 1,540 tons; "Sobriescki," 1,200 tons; "Ester," 1,412 tons.

The total number of producing wells in the field was fifty-four, so that the remaining fifty wells were responsible for a production of 11,586 tons, or an average of about 232 tons per well for the month of July.

KEROSENE PRICES IN GERMANY.

OUR German contemporary *Petroleum* publishes some interesting data from the report by the Committee of the German Reichstag respecting the prices of illuminating oil which have prevailed in Germany for the years 1910, 1911 and 1912.

In Berlin during 1910 and 1911 the price was 15 pfennig per litre, and in 1912 it was 16 pfennig per litre. The highest prices reached were 16 pfennig in 1911 and 18 pfennig per litre in 1912. For the districts between Berlin and Russia the price varied from 16 to 18½ pfennig lowest, to 17 to 19½ pfennig per litre highest.

In some of the provinces the price has been kept regular; for instance in the city of Breslau (Silesia) it has been kept as low as 14 pfennig per litre for the last three years.

In Bavaria the price has ranged from about 15 to 18 pfennig per litre and in some places like Nuremberg in 1910 and 1911 the price has been as low as 13½ pfennig per litre. Practically all over the eleven states comprising Germany the price has in most cases been on an average about 16 to 18 pfennig per litre during the last three years.

Thus in English values the average price has been from 8d. to 9d. per gallon to the retailers, who have charged an extra 1d. to 1½d. per gallon to the consumer. From this price (*i.e.*, 8d. to 9d. per gallon) has to be deducted 2d. per gallon, being the Government import duty per gallon on lamp oil.

ROUMANIAN PETROLEUM EXPORTS.

Six Months' Statistics.

THE export petroleum trade of Roumania has been especially active during the first half of the present year, notwithstanding the unrest in the Balkan States which naturally must have had some tendency to restrict foreign trade. For the six months a total of 548,077 tons of petroleum products have been exported as compared with a total of 351,973 for the corresponding period of 1912. Of the total export movement, no less than 230,429 tons were illuminating oil, while benzine was shipped abroad to the extent of 99,584 tons. The figures for the first six months of last year in these products were 138,521 tons and 67,397 tons respectively.

Full details of the six months' foreign trade will be given in our next issue.

Californian Pipelines to be Common Carriers.

NEW ACT NOW EFFECTIVE.

ON Monday, August 10th, the Common Carrier Pipeline Bill, passed by the last Legislature, became effective in California, and oil men are interested in observing how it will work. Under the provisions of the law the pipeline companies have thirty days from the date mentioned above, either to declare their lines common carriers or to take out a State license which will subject them to the payment of 50 cents. per barrel for all oil transported. This latter alternative is considered prohibitive, and no company in the State is expected to follow it.

No move has been made by the pipeline companies, says the *Oil Paint and Drug Reporter*, toward testing the constitutionality of the law in the Courts, although at the time of its passage it was stated they would probably do so. The general opinion seems to be that the law will make little difference in marketing conditions for some time at least. Most of the producing companies are already selling their oil to the marketing or pipeline companies under time contracts, and the amount of "loose" oil is very limited—so limited, in fact, that few consumers would care to take the chances of buying from a concern which could not guarantee deliveries.

The ultimate effect of the bill is a matter for future development. The Producers' and Consumers' League is an organisation headed by Colonel Spellacy, the

object of which is to get the producers and consumers together and to eliminate the middle man. Producers, however, who are under contract to either the Standard, Union-Agency or the Associated cannot immediately break away and pool their oil with another concern, and obviously unless they have a large combined output and a substantial surplus and a place to keep it, no large consumer will do business with them.

It looks very much as if the marketing of oil in California will be carried along on the same old lines for some time to come. Eventually it might happen that small refining plants will spring up at terminal points, that would use only small amounts of oil, that could be delivered by small producing concerns, but the history of the independent refiners in the Eastern fields, in many cases, is not calculated to cause any rush in this direction.

Anyway, at the present time, the three pipeline companies affected by the bill—the Standard, the Union-Independents and the Associated—are crowding their lines to take care of their own oil. In this State oil is not handled as "credit balances" as is done in the Eastern fields. The marketing concerns buy the oil at the tank of the producer and pay for it, and it is their property. Whether a producer can force the marketing concerns to set aside their own oil in order to run a batch for the producer remains to be seen.

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HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

August 29th, 1913.

The official prices of Refined Petroleum are as follows:—Russian, 8 $\frac{3}{4}$ d.; American, 8 $\frac{1}{2}$ d.; American Water White, 9 $\frac{1}{2}$ d.; Roumanian, 8d.; Galician, 8 $\frac{1}{4}$ d.

LUBRICATING OILS

There are still no alterations in the official prices, which remain as follows:—

No. 1 Russian, spot and forward, £12. 2s. 6d.
American pale, from £10. 7s. 6d.
American dark, from £12. 2s. 6d.
American filtered cylinder, from £14. 12s. 6d.

FUEL OIL

The current quotations are 75s. per ton, in bulk, ex wharf, and for grease-making oil, 80s.

MOTOR SPIRIT

is unchanged at 1s. 9d. for the best quality retail, in London, and 1s. 7d. for the second quality.

TURPENTINE.

There has been considerable business in American Turpentine since our last report; the latest quotations are for spot 29s. 9d.; September/December, 30s. 4 $\frac{1}{2}$ d.; January/April, 31s. 6d.

LIVERPOOL.

August 29th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8 $\frac{3}{4}$ d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, July 27th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	6	0	2	per case.
White Rose Brand, 150 deg., "	5	12	2	"
Chester Brand, 75 deg., Abel	5	2	2	"
Devoe's Imp. Brilliant, 76 deg., Abel	5	0	2	"
Monkey Brand, 125 deg., American	4	14	2	"
Tiger Brand in tins, 125 deg., American	4	14	2	"
White Camelia Brand in tins, 125 deg.	4	5	0	per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	4	5	0	"
Elephant Brand, 125 deg. (bulk without tins)	3	11	0	per 8 I. gal.
Camel Brand, 125 deg.	4	5	0	per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	3	13	0
Rising Sun Brand, New Tins, per pair	4	7	0
Bull Brand, Bulk, Loose, per unit	3	11	0
Bull Brand, New Tins, per pair	4	0	6
Swan Brand, Bulk, Loose, per unit	3	2	6
Swan Brand, New Tins, per pair	3	12	6
Anchor Tins, per pair	4	8	0
Shell 150 deg. cases, per case	5	8	0
Anchor cases, per case	5	0	0

The following are the current prices of the Burmah Oil Company's production:—

	Bazaar Rates—Delivery charges extra.	Rs.	a.	p.
Kerosene Oil "Waterfly," per case of two tins	...	5	4	0
" Firefly, per case of two tins	...	4	15	0
" Chukker, per two tins	...	4	5	0
" " per 8 gallons	...	3	11	0
" Victoria, per two tins	...	3	11	6
" " per 8 gallons	...	3	1	6
Burmah Wax, per pound, 1st quality	...	0	4	0
" " 2nd quality	...	0	3	0
" Candles, per pound	...	0	4	0

AMERICA.

NEW YORK, August 28th.

Oklahoma crude has been advanced to \$1.03 per barrel. Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, August 28th.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, August 27th.

The petroleum prices have remained firm. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA. BAKU, August 27th.

The petroleum market is stronger. Crude oil is quoted at 50–50 $\frac{1}{2}$ copecs per pood spot. Mazout, 47 copecs. Kerosene, 64 copecs.

ROUMANIA. August 26th.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Bushtenari	Francs.
" " " Moreni	...	6.00–6.50
" " " Tzintea	...	4.30–4.60
" " " Policiori	...	4.25
" " " Bana	0.850	8.75
Paraffin	...	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	27.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	24.00–25.00
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	17.50
Residuals, f.o.b. Constanza	...	6.00
Gas Oil	...	8.00

AUSTRIA. August 26th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 33 kronen at Oderberg. Benzine, 710/720, 45 kronen; benzine, 740/50, 34 kronen; 770/80, 22 kronen at Oderberg. Gas oil, 8.00 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate E.C., report under date August 28th as under:—

Prices are steady and unchanged as below:—

1c	18 $\frac{3}{4}$ × 14	124 sheets	110 lbs.	13/6	per box.
1c	20 × 10	225 "	156 "	19/3	"

Tin lining and iron hooping extra.

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The American Oil Market.

Saturday, August 16th, 1913.

No variation in crude oil prices is to be noted during the week, and the only development of new interest in the crude situation, says the *Oil, Paint and Drug Reporter*, is the record of pipeline operations in the Eastern fields for July. The runs of the companies in Pennsylvania, New York, West Virginia, Ohio, Indiana and Kentucky for the month reached 2,297,086 barrels, as compared with 2,235,097 barrels in June. The total for the seven months of the year is 15,539,250 barrels, while for the same period in 1912 are shown 16,539,250 barrels. Deliveries are recorded as 5,255,084 barrels for July, and 5,537,417 barrels for June. There is a marked difference between the aggregate covering deliveries for the seven months of the last two years, 35,427,471 barrels in 1913, and 50,125,645 barrels in 1912. However, this variance may be accounted for to a large extent by the inclusion of oil from other fields in the current record. Gross stocks at the close of July, with the addition of Illinois and Kansas, reached 9,716,771 barrels, as compared with 9,791,997 barrels, the former record.

Gulf Coast advices note a marked slump in drilling activity, and there has been little outside of the wild-cat operations to attract particular interest, with the exception of an interesting strike at Mooringsport, in Northern Louisiana. The well started at the rate of 2,500 barrels a day, but rapidly increased its production to an estimate of between 15,000 and 18,000 barrels; in addition to the size of this well, an important feature is its location, being three-fourths of a mile in advance of any other development in that section. Movements of oils by the leading Gulf Coast refineries for July are said to have broken all records, totalling about 1,250,000 barrels, both for domestic and foreign ports. One of the concerns sent out fourteen barges, averaging over 4,000 barrels each, and eleven steamers, averaging 50,000 barrels each, totalling more than

600,000 barrels. Another company shipped twelve steamers, averaging 50,000 barrels, and three barges, averaging 5,000 barrels, totalling over 60,000 barrels.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912.	1913.
	August 16.	August 16.
Pennsylvania	\$1.60	\$2.50
North Lima	1.04	1.39
South Lima	0.99	1.34
Indiana	0.99	1.34
Illinois, above 30 degrees	0.87	1.30
Kansas and Oklahoma	0.70	0.98
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex	0.75	0.90
Californian, Coalinga light	0.65	0.60
" Kern River heavy	0.35	0.35
CANADIAN OIL	1.44	1.79

REFINED—FOR EXPORT.

In cents.		Week ended August 16.	
		S.W.	W.W.
		110 test.	150 test.
Bulk, New York	per gal.	5'00	6'00
Barrels, New York, cargo		8'70	9'70
Barrels, Philadelphia		8'70	9'70
Cases, New York		11'00	12'00
Cases, Philadelphia		11'00	12'00

REFINED IN CASES—110 FIRE TEST.			
3,000 to 10,000			\$11.15
1,000 to 3,000			11.25

REFINED—JOBGING LOTS.

In barrels, pkgs. included.			
130 fire test, S.W.			12
150 fire test, W.W.			12½
From tank wagons			9

NAPHTHA AND GASOLINE.			
Naphtha, in wooden barrels			21
Gasoline, 86 deg.			29½

TOTAL EXPORTS.			
	Current week.	Since Jan. 1, 1913.	Since Jan. 1, 1912.
	Gallons.	Gallons.	Gallons.
Crude	14,033,880	101,620,429	84,217,740
Refined	24,021,390	544,586,092	560,177,845
Naphtha	3,078,710	64,930,075	93,508,560
Gas oil	76,000	20,786,950	37,957,120
Fuel oil... ..	153,000	84,237,610	44,397,840

16 PARKER MOGUL ROTARIES

Operating the most difficult territory in the California Oilfields, have each drilled from 2,000 to 20,000 feet of bore-hole with a total up-keep expense of less than £20.

40 PARKER MOGUL ROTARIES

Operating for Pearson & Son, Tampico Oil, East Coast, John Hays-Hammond, and other Mexican Companies, have reduced the drilling time 75 per cent. over methods previously employed.

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are drilling wells more economically than any system ever employed in these countries.

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1-5, BROAD STREET HOUSE, NEW BROAD STREET, LONDON, E.C.

Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

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FOR THE WEEK ENDED AUGUST 25TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
August. LONDON—				
21/7	Bowring Petroleum Co.	Gasoline	387,740	P. Mexico
21/7	"	Benzine	1,360	"
21/7	Port Authority	Lub.	3,200	Hamburg
21/7	"	"	360	"
19	"	"	480	Marseilles
19	"	"	5,600	New York
19	Woollett, Airey & Co.	"	50	"
19	Schliemann Oil, etc., Co.	"	2,600	Philadel.
20	Anglo-American Oil Co.	"	17,080	New York
20	Vacuum Oil Co.	Lub. Oil	8,430	"
		and Gr.		
20	Mercantile Lighterage Co.	Lub.	22,840	"
20	Mordaunt Bros.	"	4,200	"
20	Produce Brokers Co.	"	5,200	Baltimore
20	Langley, Smith & Co.	"	10,990	Philadel.
21	Anglo-American Oil Co.	Naphtha	255,910	Novorossisk
21	"	Benzine	524,260	"
21	Leach & Co.	Lub.	240	Ghent
21	P. Brancher	Lub. Gr.	1,200	Antwerp
21	G. & H. Green	"	2,200	New York
21	Lubricating & Fuel Oils Co.	Lub.	49,610	Philadel.
22	A. Duckham & Co.	"	1,000	Antwerp
22	Hanseatic Maritime Agency	"	500	Bremen
22	Schliemann Oil, etc., Co.	Lub. Oil	2,160	Hamburg
		and Gr.		
23	Asiatic Petroleum Co.	Benzine	960,460	P. Samboe
23	Ragosine & Co.	Lub.	4,890	Philadel.
23	Bowring Petroleum Co.	"	6,520	"
23	W. Rogers	"	3,680	"
23	E. G. Boize	Lub. Oil	580	Hamburg
		and Gr.		
25	Price's Patent Candle Co.	Lub.	6,000	S. Petersburg
25	Anglo-American Oil Co.	"	25,840	Philadel.
25	Vacuum Oil Co.	"	410	"
25	Mercantile Lighterage Co.	"	8,600	"
25	S. Capon	"	3,800	New York
25	Produce Brokers Co.	"	10,000	"
25	Langley, Smith & Co.	"	4,470	"
LIVERPOOL—				
19	Huxley & Co.	"	1,090	"
20	White Star Line	"	50,040	"
20	Meade-King, Robinson & Co.	"	11,460	Batoum
20	"	"	2,960	N. Orleans
20	Pickford's	Lub. Oil	250	Hamburg
		and Paste		
21	Wilkinson Bros.	Lub.	250	"
21	Anglo-American Oil Co.	Lamp	652,510	Philadel.
21	Worthington & Boler	Lub.	8,200	"
22	W. B. Dick & Co.	"	8,560	"
22	Meade-King, Robinson & Co.	"	4,800	"
23	Crew, Levick & Co.	"	55,770	Philadel.
23	American Line	"	1,200	"
23	Anglo-American Oil Co.	"	8,120	"
23	"	"	15,960	New York
23	Vacuum Oil Co.	"	12,360	"
23	Burnaby & Chantrell	Lub. Gr.	1,240	Hamburg
23	Pickford's	Lub. Oil	620	"
		and Paste		
23	D. Currie & Co.	Lub. Gr.	240	"
25	Dee Oil Co.	Lub.	2,000	"
25	Meade-King, Robinson & Co.	"	26,240	Baltimore
25	"	Gas	5,200	Philadel.
25	Stockdale & Doel	Lub.	22,350	"
25	A. Hopps & Sons	"	15,640	Baltimore
25	"	M. Colza	5,200	"
25	J. Light & Son	Lub.	2,720	"
25	Crew, Levick & Co.	"	1,640	Philadel.
BRISTOL—				
15	H. Pritchard & Co.	"	1,050	Antwerp
20	British Petroleum Co.	Lamp	1,216,000	Batoum
20	B. Perry & Sons	Lub.	800	Antwerp
20	Anglo-Bosphorus Oil Co.	"	3,710	New York
22	First Anglo-Russian Oil Co.	"	270	Hamburg
25	Pickford's	"	240	Antwerp
25	"	"	230	"
25	Stephens Bros. & Martin	"	200	"
25	Ferris & Co.	Oil Sorts	160	"
BOSTON—				
22	W. F. Beaumont	Lub.	160	Hamburg
GRIMSBY—				
19	J. Sutcliffe & Son	"	100	"
22	"	"	300	"
22	"	"	860	Antwerp

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
August. HARWICH—				
18	Great Eastern Railway	Lub.	220	Antwerp
19	"	"	240	"
21	"	"	400	Hamburg
22	"	"	120	Antwerp
23	"	"	80	"
HULL—				
21	T. Wilson, Sons & Co.	"	2,000	S. Petersburg
21	Wilson's & N. E. Railway	"	360	Hamburg
21	"	"	1,800	Antwerp
22	T. Wilson, Sons & Co.	"	1,200	New York
25	Wilson's & N. E. Railway	"	800	Hamburg
MANCHESTER—				
22/5	Anglo-Mexican Petroleum Products Co.	Fuel	36,240	P. Mexico
19	J. T. Fletcher & Co.	Lub.	120	Antwerp
20	Meade-King, Robinson & Co.	"	49,920	Philadel.
20	Anglo-American Oil Co.	"	32,600	"
20	W. Hodgson & Co.	"	250	New York
20	D. Currie & Co.	"	2,500	Hamburg
20	"	"	2,300	"
20	Crew, Levick & Co.	M. Colza	2,410	Philadel.
20	"	Lub.	2,390	"
20	Bramwell, Fern & Co.	"	22,320	"
20	McLiners, Ltd.	"	2,680	"
20	G. B. Taylor	"	2,600	"
21	Anglo-American Oil Co.	Lamp	727,500	Philadel.
23	Anglo-Mexican Petroleum Produce Co.	Fuel	816,000	P. Mexico
23	"	Gas	450,000	"
25	Pickford's	Lub.	440	Hamburg
NEWCASTLE—				
20	Tyne-Tees Steamship Co.	"	1,280	"
20	"	"	360	Antwerp
23	P. H. Matthiessen & Co.	"	260	Bergen
PLYMOUTH—				
25	Anglo-American Oil Co.	Fuel	192,500	Kustendje
ABERDEEN—				
15	R. C. Reid & Co.	Lub.	2,680	Hamburg
25	"	Lub. Oil	480	"
		and Gr.		
GLASGOW—				
19	Clyde Shipping Co.	"	5,750	Antwerp
22	MacLay & MacIntyre	Lamp	40,960	N. Orleans
22	"	Lub.	3,000	"
22	Anchor Line	Lub. Gr.	1,200	New York
25	"	Lub.	44,790	"
25	"	M. Colza	1,200	"
LEITH—				
19	Jas. Currie & Co.	Lub.	360	Bremen
21	"	"	80	Hamburg
25	"	"	6,000	"
25	G. Gibson & Co.	"	480	Antwerp
GRANTON—				
23	Asiatic Petroleum Co.	Benzine	372,000	Rotterdam
BELFAST—				
21/7	Anglo-American Oil Co.	Gas	30,480	Sabine
20	J. C. Pinkerton & Co.	Lub. Oil	330	Antwerp
		and Gr.		
22	"	Lub. Gr.	260	Hamburg
DUBLIN—				
19	P. Murphy & Co.	Lub.	60	Antwerp
CORK—				
18	P. Murphy & Co.	Lub. Oil	400	Hamburg
		and Gr.		
LIMERICK—				
23/6	Limerick Steamship Co.	Lamp	17,700	Port Arthur
			7,363,260	
Deduct—				
LONDON—				
30/7	Lubricating & Fuel Oils Co.	Lub.	4,100	New York
HULL—				
31/7	W. Gilyott & Co.	"	2,600	"
MANCHESTER—				
22/5	Bowring Petroleum Co.	Lamp	5,660	P. Mexico
ABERDEEN—				
5/8	R. C. Reid	Lub.	1,000	Hamburg
BELFAST—				
12/7	Anglo-American Oil Co.	Lamp	11,350	Sabine
			7,335,550	

The Petroleum Review Directory.

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AIR COMPRESSORS.

Hughes & Lancaster, 16, Victoria Street, S.W.

AUTOMATIC CASK FILLERS (CRAWFORD'S).

Hatch, Geo., Ltd., 20-21, Queenhithe, Upper Thames Street, London, E.C.

BELTING MANUFACTURERS.

Willcox, W. H., & Co., 32 to 38, Southwark Street, S.E.

BOILERS.

Marshall, Sons & Co., Ltd., Britannia Works, Gainsborough.

BORING TOOLS.

Deep Well Tool and Boring Co., Ltd., St. Albans.
Galizische Karpathen Petroleum-Actiengesellschaft, Glinik Maryampolski, Galicia, Austria.
Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.
Oil Well Supply Co. (Pittsburgh), Dashwood House, London, E.C.
Thom, John M., Patricroft, near Manchester.
Trauzl & Co., Vienna.

BUILDINGS.

Boulton & Paul, Ltd., Norwich.

CHEMICALS.

Spencer, Chapman & Messel, Ltd., 36, Mark Lane, London, E.C.

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LAMP OILS.

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Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.
Homelight Oil Co., Ltd., 14, St. Mary Axe, E.C.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

LIQUID FUEL BURNERS.

Kermode's Liquid Fuel System, 35, The Temple, Dale Street, Liverpool.

LIQUID FUEL IMPORTERS.

The Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.
Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.
Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.

LIQUID FUEL INSTALLATIONS.

The Wallsend Slipway and Engineering Co., Ltd., Wallsend-on-Tyne.

LUBRICATING OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.
Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.
Bramwell, Fern & Co., London, Manchester and Liverpool.
Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.
Crew Levick Co., Irwell Chambers, W. Liverpool.
Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.
Meade, King, Robinson & Co., 22, Water Street, Liverpool, and Manchester.
The Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
Waverley Oil Work Co., Pittsburgh, Pa., U.S.A.
Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL BROKERS.

Benjamin & Gee, 31, St. Mary Axe, E.C.
Bramwell, Fern & Co., London, Manchester and Liverpool.
Lane & Macandrew, 26, Great St. Helen's, E.C.

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Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
Waverley Oil Works Co., Pittsburgh, Pa., U.S.A.

OIL ENGINES.

Norris & Henty, 87, Queen Victoria Street, E.C.
Marshall, Sons & Co., Ltd., Britannia Works, Gainsborough.

OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.
Anglo-Maikop Corporation, Ltd., 7, Angel Court, E.C.
Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.
Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.
Crew Levick Co., Irwell Chambers, W. Liverpool.
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The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
Waverley Oil Works, Pittsburgh, Pa., U.S.A.
Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL PIPELINES.

Russell, John, & Co., Ltd., Alma Tube Works, Walsall.
Stewarts & Lloyds, Ltd., 41, Oswald Street Glasgow.

OIL TRACTORS FOR TRANSPORT.

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Homelight Oil Co., Ltd., 14, St. Mary Axe, London, E.C.

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Gibson, E. A., & Co., 22, Billiter Street, London, E.C.
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STORAGE ACCOMMODATION.

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Prior, S. J. B., 5, Laurence Pountney Hill, E.C.

TRAM AND WAGON GREASE.

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TUBES (STEEL AND IRON).

Deutsche - Oesterreichische Mannesmannröhren Werke, Düsseldorf, Germany.
Russell, John, & Co., Ltd., Alma Tube Works, Walsall.
Spencer, John, Ltd., Globe Tube Works, Wednesbury.
Thom, John M., Patricroft, near Manchester.

WAXES.

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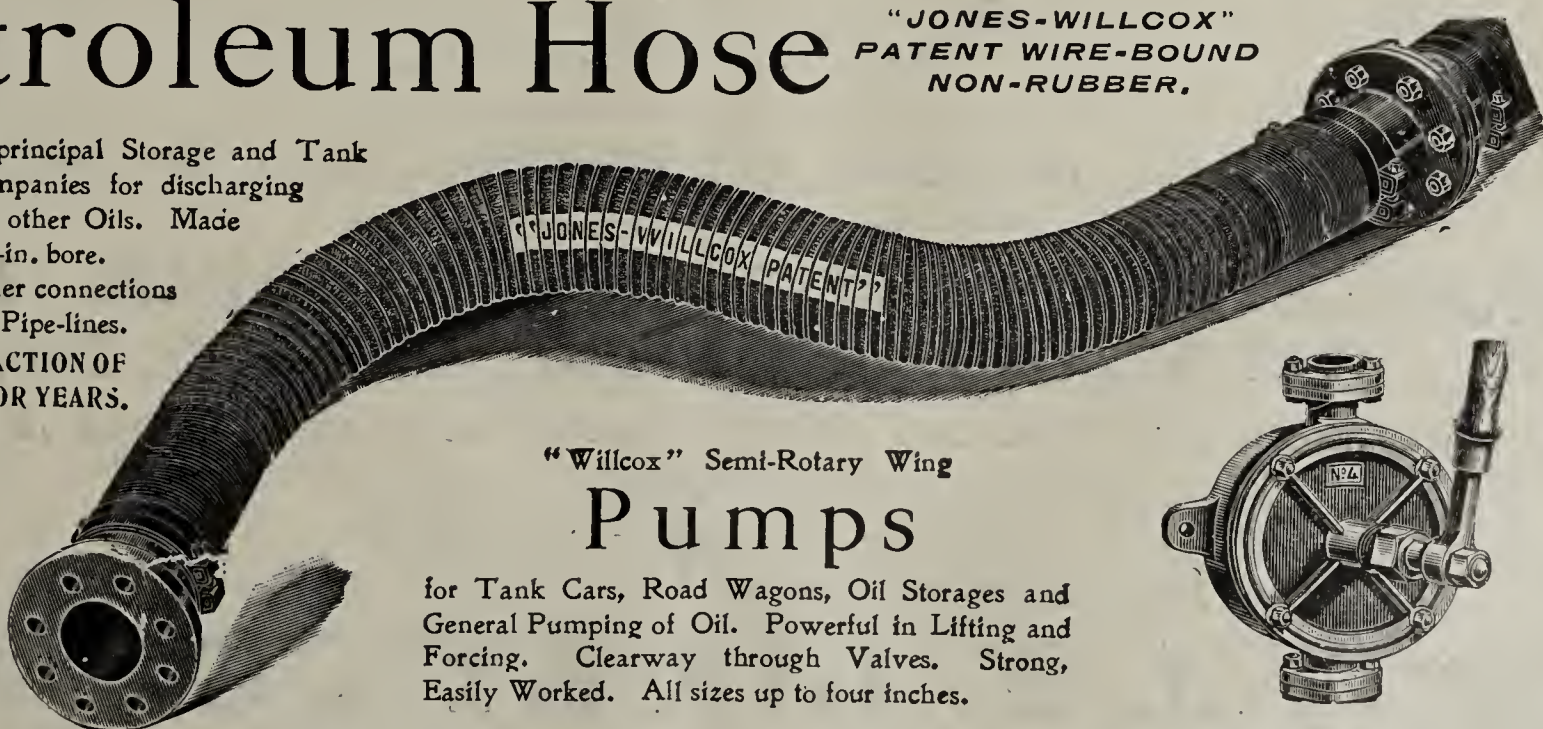
Glaholm & Robson, Ltd., Sunderland. London Office: Finsbury Court, Finsbury Pavement, London, E.C.
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1-5, BROAD STREET HOUSE, NEW BROAD STREET, LONDON, E.C.

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THE PETROLEUM REVIEW.

The ANNUAL SUBSCRIPTION for both English and Foreign readers is 26s., including Postage. Single Copies may be had at the offices at 6d.

The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

Our Growing Imports.

OUR import trade of petroleum products continues to grow by leaps and bounds. We have already commented upon the unparalleled increase in the trade for the first half of the year, and at that time we prognosticated that the year's totals would show an increase even greater than was then suggested. We have now before us the total figures of imports for the first eight months of 1913, which show that approximately 270,000,000 gallons of petroleum products were imported during that period as compared with about 230,000,000 gallons for the corresponding period of 1912. The gain therefore in the bulk of our petroleum trade is very substantial, made up for the most part of the increase in the motor-spirit trade. There is no doubt about it that this branch is the most flourishing of any branch of the import business, and to us it is no surprise to find that it is now being strenuously attacked by other interests on behalf of the motoring community. We have always argued that remunerative prices should be obtained for the marketing of petroleum products, but naturally there is a limit, beyond which all consumers object.

Another Forthcoming Exhibition.

THE present is the age of exhibitions, and quite rightly so, since for years the light of oil has indeed been hidden under the bushel. From the beginning of November until the commencement of February, 1914, the Imperial Russian Technical Society intend to organise their second International Exhibition of lighting, heating and gas carbureting appliances. The Exhibition is naturally one which will appeal to a host of English interests, for this country has been forward in many directions in applying oil to a multiplicity of uses. As may be gathered from its title, the object of

the Exhibition is to show the present state of development in the various branches, as well as to demonstrate their comparative advantages, and it is interesting to learn that in connection with it, a Congress will be held at which the subjects of oil heating and lighting are to be discussed. Any intending exhibitors, by communicating with the REVIEW will receive full particulars of the Exhibition and any other details they may require.

The Russian Government and the Oil Industry.

WHETHER by design or otherwise it is hard to say, but somehow the Russian Government and its officials always have the unhappy knack of doing the wrong thing at the wrong time. Over and over again the Govern-

ment has even gone out of its way to attempt to strangle the empire's petroleum industry, but it is hard to believe this has been deliberately done, since the Government itself would be the greatest loser in case of disaster. Now we have the Prime Minister urging the expediency of manufacturers passing from oil to coal, owing to the decline of crude oil production. Everyone is naturally entitled to his own views, but one cannot help thinking that by far the better course would be for the Government itself to open its virgin crown lands in the Apsheron Peninsula to exploitation, and thus make it possible for Russian crude oil production to increase in the same substantial ratio as the industry of other countries. One thing, however, it must do before these new lands can be counted upon as attractive fields for the investment of new capital; it must modify its present absurd royalty basis, which effectively prevents the commencement of operations in new areas, and at the same time renders work on the older fields remunerative only to the Government.

New Zealand to the fore.

IN no part of the world is such a serious and determined attempt being put forward to establish a petroleum industry as is the case in New Zealand, where, thanks to the fostering care of the Government, and the advent of

English capital, success in the direction of producing and refining petroleum is now practically assured. Several companies are now energetically at work searching for commercial quantities of oil, and some of these have already been well rewarded. The first oil refinery on the island—a splendidly designed and well thought out plant—has now been put into operation, and everything augurs well for the future of the young industry. We heartily wish success to the efforts of our friends in the Antipodes. 'Tis not, we know, in mortals to command success, but, of a truth, they richly deserve it.

IMPORTANT EXTENSIONS BY THE TEXAS COMPANY.

THE REVIEW learns upon semi-official authority that the Texas Company is substantially increasing its radius of operations. In addition to purchasing the holdings of the Louisiana Oil Company, the Company is carrying on active development in nearly all the proved oil regions of Texas and Oklahoma, while it has secured further interest in Mexican oil lands. It is anticipated that in a year or two the Texas Company will be one of the chief producers in the Mexican oil industry. It has recently decided to build two new refineries, one in Texas and the other in Mexico, possibly at or near Tampico.

DEATH OF MR. CHARLES CANFIELD, OF LOS ANGELES.

WE regret to record the death of Mr. Charles A. Canfield, of Los Angeles, California, one of the most widely known Californian oil men.

While leaving a fortune of over \$15,000,000, Mr. Canfield had at four different periods of his business career lost large fortunes and started anew. It was only in 1892 that Mr. Canfield became interested in oil, but once interested, he became enthusiastic, and it is due to him that several of the best known Californian oil regions were opened up. He was the first to develop the Coalinga field.

INTERNATIONAL RUSSIAN OILFIELDS, LTD.

An Energetic Drilling Programme Started.

THE directors of this Company report that drilling operations have been commenced on Plot No. 77, in the Maikop field, where a well was previously drilled to a depth of 1,700 ft. This well is being continued, and the present depth is 1,719 ft., the formation being clay and shale. A rotary drilling outfit was ordered some time ago, and the materials have now been despatched to Russia. A second deep well will be commenced as soon as possible after the arrival of this machinery.

THE GALICIAN PETROLEUM INDUSTRY.

A Central Sales Office Formed.

THE REVIEW learns from its correspondent in Vienna that during the present week a joint conference of representatives of the Galician oil refiners has been held, at which it was agreed to form a central sales organisation in order to deal with the disposal of lubricating and gas oils both for the home market and for export. There is no doubt that such an office, properly conducted, will be of immense benefit to the Galician petroleum industry as a whole.

OIL CONCESSIONS FOR SALE

Promising Oil Concessions in Java and the island of Timor for disposal. Maps and all particulars upon application. Principals only dealt with. Write in first instance—J. T., care of REVIEW Offices, 45, St. Mary Axe, London, E.C.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended August 30th was 106,000 poods.

SPIES PETROLEUM COMPANY, LTD.—Production, week ended August 31st, including 10,065 poods pumped from ambars, was 179,315 poods, or about 2,892 tons. The total production for the year, from Jan. 14th to August 31st, was 9,133,570 poods, or about 147,316 tons. The total production for the corresponding period last year was 10,867,515 poods, or about 175,282 tons. Price of crude oil at Baku, 53¼ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD. — The production of crude oil for week ended August 30th was 15,262 poods (246 tons).

EUROPEAN OILFIELDS CORPORATION, LTD. — The production for the week ended August 31st was 104,500 poods, or 1,686 tons. Crude oil at Blacktown is now 51½ copecs per pood.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended August 30th was 120,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended August 30th was 29,282 poods (472 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended August 30th was 8,800 poods, or 142 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended August 31st was 13,924 poods, or 225 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended August 30th, 105,860 poods or 1,707 tons.

NORTH CAUCASIAN OIL FIELDS, LTD. — Production for the week ended September 2nd was 38,300 poods, or 618 tons. Corresponding period last year, 730 tons. Total production to date for this year, 65,855 tons, last year 18,724 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended August 31st was 1,080 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended August 30th was 15,070 poods.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended August 30th was 10,518 poods (169 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended August 30th was 1,360 poods (22 tons).

CHELEKEN OILFIELDS.—Estimated production, fortnight ended August 30th, 2,122 tons.

GERHARD & HEY,
OILFIELDS SHIPPING AGENTS,
Great St. Thomas Apostle
 (Off Cannon Street),
LONDON, E.C.
 ESTABLISHED 1856.
 Telephone: City 8840 (4 lines).

The White Mechanical Fuel Oil Burning System.

A NEW SYSTEM WHICH PROMISES TO EFFECT LARGE ECONOMIES.

Special
to the
REVIEW.

SINCE liquid fuel has commenced to play such an important rôle in the production of power both for marine and land purposes, considerable interest is bound to attach itself to all new contrivances which aim at its more complete combustion, and thus effect economies hitherto non-existent.

There are numerous systems which have passed the experimental stage, and are therefore now generally regarded as the last word in the burning of liquid fuel; but doubtless the most prominent, so far as this country is concerned, are the Wallsend-Howden patent system, which is marketed by the Wallsend Slipway and Engineering Company, Ltd., and the Meyer-Smith system.

Mr. William A. White, of 601, Washington Street, New York, is the inventor of the latest system of burning oil fuel—known as the White Mechanical fuel oil system—and at the present time is in London for the purpose of making his invention more generally known.

As applied to natural draught boilers, the system consists of an air-heating front which is fitted over the mouth of the furnace, consisting of a disc casting having a number of projecting vanes forming air passages down which the air must pass, absorbing the heat from these vanes and disc, and becoming heated to over 200° Fahr. These passages conduct the air to the centre of the disc, where it is admitted to the furnace in swirling streams, surrounding the burner, perforated jacket, and sliding cone.

The burner is of simple construction, possessing means, by a series of longitudinal channels formed in the periphery of a cylindrical cone-shaped member, of mechanically dividing the liquid fuel under pressure into a number of separate streams, by this means attenuating and imparting a spiral motion to the said streams, uniting them into a swirling mass prior to their ejection through the burner nozzle; thus setting up a finely atomised condition of the fuel before being ejected from the orifice in a swirling mist, thus being prepared for burning with a high degree of efficiency. A conical valve fills the said chamber to close the outlet, and is retracted to supply a regulated quantity of fuel to the burner orifice.

The heaviest of Mexican oils are readily and completely atomised and burned, and no trouble is found to develop in the burners due to carbonisation, burners having run days without requiring cleaning. The pressure on the oil line is from 60 to 75 lbs. when operating, but the oil can be ignited down to as low as 10 lbs. pressure. The flame commences right at the end of the burner, the fuel being completely consumed in the furnace itself, positively no flame reaching the combustion chamber. One of the features of the system is the freedom from smoke even when burning the heaviest of Mexican oils.

Another feature of the White system is the manner

in which air admission is regulated, and also the manner of completely closing off the air supply when the burners are not in use, eliminating the danger of leaky tubes and seams in the combustion chamber.

An important feature is the reduction in the temperature of the stokehold, the cleanliness of the stokehold, and the saving in labour. When applied to boilers with Howden forced draught fronts, the doors are the only part removed, being replaced by the *White door*, carrying all the installation complete and attached. No other alteration whatever to fronts is required.

Repeated and continued results are being obtained wherein economies of 15 to 18 per cent. and over are shown, as compared with steam atomising systems with both natural and forced draught boilers, one horse-power being obtained with .92 lbs. of oil per hour with triple expansion engines. Mexican crude oils of specific gravities as high as .993 and over are being successfully burned with the system without any sign of carbonisation in the burners, and with no smoke. The low pressure carried on the oil line eliminates the possibility of oil getting into the boilers in the event of a leak in the heater coils.

Until a few days ago the White system was unknown in this country, for it had not been adapted to any oil-tankers flying the British flag. The system has, however, now been installed in Messrs. Hunting & Son's tanker, the s.s. "Bloomfield," which concluded an exhaustive trial last Monday, when she bunkered at Thames Haven after a most successful trip down the coast from Newcastle. Mr. Muir, the marine superintendent of Messrs. Hunting & Son, and Mr. White, the inventor, specially travelled on the tanker, and both gentlemen were delighted at the remarkable manner in which the system operated, several kinds of liquid fuel, including heavy Mexican oil, being most completely atomised.

The White system has already earned an enviable name on the other side of the Atlantic, and at the present moment among the vessels which are being installed with the system is the Standard Oil Company's mammoth tanker, the "Iroquois," which will shortly leave on one of her usual journeys, to tow a barge across the Atlantic to London.

The first vessel fitted with the White system was the s.s. "Purus," belonging to the Lloyd Brazilerio Steamship Company, the system being installed last September. This 6,800-ton vessel, which formerly burned coal, after being fitted with the White system on natural draught showed an increase of speed of over a knot per hour on a ratio of oil to coal of 10 to 16. The following month the s.s. "Dochra," owned by the Barber Steamship Company, was similarly fitted with the White system, the vessel formerly utilising a steam atomising system. The new system showed a saving of 18 per cent. in oil consumption.

The Gulf Refining Company have whole-heartedly gone over to the White system of burning oil, this company's barge "Shenango" being the firm's first tanker upon which the system was installed. Then followed the s.s. "Ligonier" and the "Larimer," in which the Howden forced draught system of burning oil had been previously installed, while owing to the efficacy of the White system on these tankers, the s.s. "Trinidadian," formerly owned by Messrs. Lane & Macandrew, but since its fire now one of the Gulf Company's fleet, has recently been fitted with the White system.

The Texas Company is also installing the White system, the s.s. "Northwestern" having recently gone over to the new system, while other of the Company's vessels are being fitted as circumstances allow.

The Mexican Fuel Oil Company, the new organisation known as the Interocean Oil Company, and the Southern Pacific have all placed orders for adopting the new system, which bids well to at once leap into immense popularity where owners desire liquid fuel to be burned under the most ideal and economical conditions.

The English manufacturers of the system are Messrs. Brigham & Cowan, South Shields.

NEW ENGLISH COMPANIES.

THE NORTH AFRICAN PROSPECTING SYNDICATE, LTD.

REGISTERED on August 29th by Cutler & Allingham, 15, Duke Street, St. James's, Westminster, S.W. Capital, £3,000 (2,800 preference shares of £1, and 4,000 deferred shares of 1s. each). Objects: To purchase or otherwise acquire any oil or petroleum properties and any rights to prospect for oil from any such lands; and also to work, quarry, refine and prepare for market, oil, petroleum and naphthas, etc. Private company. First directors (who are to number not less than two nor more than five) are Rupert Simpson, 3, London Wall Buildings, E.C., and J. A. McCandlish, 56, Moorgate Street, E.C. Qualification: 50 deferred or preference shares. Registered office: Cross Keys House, 56, Moorgate Street, E.C.

THE T.B.K. SYNDICATE, LTD.

Registered on August 28th by Nicholson & Crouch, 17, Surrey Street, Strand, W.C. Capital, £2,000 in £1 shares. Objects: To carry on any business comprising the breaking, splitting or crushing of nuts, or the extraction of oils or fatty matter from the kernels. Private company. Signatories: Leonard Wing Crouch and Frederick Bernard Smith, both of 17, Surrey Street, Strand, W.C. First directors (who are to number not less than two nor more than five) are to be appointed by signatories. Qualification of directors: One share. Registered office: 17, Surrey Street, Strand, W.C.

BURMA PROPRIETARY SYNDICATE, LTD.

Registered on August 30th by Ramsden & Co., 85, Gracechurch Street, E.C. Capital, £10,000 (9,800 ordinary shares of £1 each, and 4,000 "B" shares of 1s. each). Objects: To purchase or otherwise acquire any petroleum or oil-bearing lands, and to carry on the business of oil, naphtha, naphtha products and petroleum refiners, and to render the same merchantable and fit for use. Minimum cash subscription: Seven ordinary shares. First directors (who are to number not less than two nor more than seven) are Ernest Alfred Foster, 6 Great St. Helen's, E.C., and Edward Pope, St. Stephen's Chambers, Telegraph Street, E.C. Qualification: 100 shares. Remuneration: £150 per annum, with an additional 10 per cent. of the profits of the company, but not to exceed in any one year £2,000 (chairman, £200). Registered office: 6, Great St. Helen's, E.C.

THE CANOLA SYNDICATE, LTD.

Registered on August 29th by R. C. Leach & Co., 10, St. Helen's Place, Bishopsgate, E.C. Capital, £5,200 (5,000 shares of £1, and 4,000 deferred shares of 1s. each). Objects: To search for oilfields and petroleum, etc. Private company. Signatories: George William Eastham, 37, Priory Park Road, Kilburn, N.W., and James Joseph Hyde, 23 and 24, Albert Buildings, Randall Road, Kennington, S.E. First directors (who are to number not less than two nor more than seven) are to be appointed by signatories.

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The Island of Timor and its Oil Possibilities.

By Mr. E. J. GREEN (General Field Manager for Timor Oilfields, Ltd.).

*Special
to the
REVIEW.*

HAVING recently returned from a stay of four years in the Island of Timor, the following few notes will doubtless be perused with interest.

Of the lesser Sunda Islands in the Malay Archipelago, Timor is the largest and the easternmost of those known by that name.

It is divided in about equal proportions between the

liferous land located, and acting upon geological advice, deep boring is now in progress. A number of concessions are held by various companies, the largest single concession (Pualaca Concession) being situated in Central Timor; and other properties being either on or adjoining the south coast.

Even at comparatively shallow depths good shows of



The First Borehole of Timor Oilfields, Ltd.

Dutch and Portuguese Governments, the eastern portion of the Island being Portuguese.

Very little is known at present concerning Dutch Timor, owing to lack of encouragement from the Government, while prospecting by private individuals is prohibited.

Fortunately this is not the case where Portuguese Timor is concerned, foreigners of any nationality receiving every courtesy and every possible assistance from the Government.

Petroleum has been known to exist in the island for a long time, one of the earliest references appearing in Wallace's "Malay Archipelago," written over 50 years ago.

There has recently been many large areas of petro-

petroleum have been met with, and considerable quantities obtained by pumping. When, however, drilling is carried down to a depth of from 1,200 to 1,500 ft., I confidently anticipate that good flowing wells will result.

A sample of petroleum taken from the surface has proved to be of high commercial value, containing as much as 64.6 per cent. of kerosene and over 30 per cent. of intermediate and lubricating oils. It is highly probable, therefore, that ultimately Timor petroleum will prove to be the most valuable obtained in the East Indies.

The country is mountainous throughout, but is well served with roads which are being rapidly extended.

Although within a few degrees of the equator, the

climate in the interior is an ideal one for Europeans, enabling oilfield work to be carried on without jeopardising the health of employees.

Labour conditions cannot fail to attract the notice of a new-comer, wages being exceedingly low (20 Mexican cents per day, or about 5d. per diem for unskilled labour), without recruiting or any other expense, all that is necessary being to notify the local military commandant the number required and within a few days the men are all forthcoming.

Beyond Customs charges and necessary licenses, there is no taxation on either property or income.

There is a small statistical tax of 1 per 1,000 on imported machinery, and a nominal royalty on all oil exported, but this is more than compensated by the rebate which is allowed on colonial products imported into Portugal.

The town of Dilly, on the North coast, is the principal Portuguese establishment and seat of government, and from here there is regular steamship communication with Australia, Java and Macassar. The European community is at present a diminutive one, but with the growing interest which this colony has aroused, particularly from Australia, it is steadily increasing with the times.

As regards the natives, it may be stated that the Timorese are more Papuan than Malayan, but their colour is somewhat lighter and they do not possess such prominent features.

They are divided into many small tribes, are very warlike and speak a variety of languages, no less than forty-two dialects being known in Portuguese Timor alone.

At the time of writing, four companies have secured concessions, and no less than three are now carrying out active development. The first company to acquire territory was the Timor Development Syndicate, of Sydney, whose land is situated at Vessora, on the South

The next company of importance is the International Petroleum Company, of Hong Kong, whose geologist is now on the field carrying out an extensive survey. The highly favourable opinion which this gentleman has formed of the oil producing possibilities of Timor is seen from the fact that the company has already applied for additional concessions.



On the Property of the International Petroleum Company.

The latest company to direct its attention to Timor is the Bibiluto Oil Wells, Ltd., of Sydney, whose principal concessions are on the coast, some fifteen miles west of Vessora, others being more in the interior.

From the foregoing it will be observed that considerable interest is being centred in these newly discovered fields, and their ultimate successful development is but a question of time.

AMERICAN NOTES.

The Electra Field.—This Texas field still continues to be the centre of attraction, but although a good number of wells have lately been completed, the field's boundaries have not been extended.

Santa Maria Gasoline.—In the old Santa Maria field interest is more generally being given to natural gas—gasoline manufacture. The Santa Maria oil is of a high gravity, and a large amount of gas has been going to waste for years. A number of gasoline plants are now installed, and the gas is fast becoming utilised. The Pinal-Dome Company has been running one plant with an output of 1,200 barrels daily, but it has recently installed two mammoth compressors, which will add 3,000 gallons daily to its output.

The Fullerton Field.—Although many operators urge that the Fullerton field will eventually become the greatest field in the Californian State for oil production, past developments scarcely justify the opinion. The field takes in the localities of Olinda, Puente, Berea Canyon, and a certain portion of the La Habra field is by no means a new region. Operations commenced over thirty years ago, and the only hope of the district is in the deep sands, which evidently lie at depths of between 3,000 and 4,000 ft.



Another Well of Timor Oilfields, Ltd., drilled by the John Thom English System.

coast. Acting upon the advice of its geologist, a deep bore is now being put down and, if necessary, this well will go down to a depth of 2,000 ft.

The only English company operating in the island is the Timor Oilfields, Ltd. It is generally conceded that this company possesses, not only the largest but also the most promising territory in the island, and under my direction all pioneer work has been carried out, everything now being in readiness for deep boring.

SITUATION WANTED.

PETROLEUM SPECIALIST. Engineer Chemist, 42 years old, has had 20 years' experience in petroleum refinery management, at present director of the largest refinery in Austria, able to undertake the erection, putting into work, management or reconstruction of large mineral oil refinery. Will accept position in Russia (knowledge of language), Roumania or America. Guarantees economy in management. First-class references.—Reply "K.Z.," PETROLEUM REVIEW, 45, St. Mary Axe, London, E.C.

THE OILFIELDS OF BURMA.

Their History and Development.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

*Reprinted from
"Memoirs of the
Geological Survey
of India."
Volume XL, Part I.*

(Continued from page 226.)

AS the yield of oil decreases year by year, water begins to make its appearance, and increases until its proportion to the quantity of oil is so great as to prevent the well being pumped with any profit. Large areas of some of the shallow sands are now "drowned" with water, and one or two of the deeper sands in many places are fast becoming so. Some of this water, no doubt, has followed the oil in an irregular manner up the flanks of the anticline, but much has certainly gained access along the bore holes from the surface or from water sands. Captain Sandeman, warden of the oilfield, tells me that water is frequently found between 700 and 900 ft. at a horizon in which it did not occur formerly: he considers that much of this may be due to the water which has to be poured down the bores in the process of drilling. Large quantities are pumped up from the river and poured into bore holes for this purpose. Water sands occur locally at definite, more or less constant, horizons, and have to be carefully shut off from the bore before drilling into any oil sand it is desired to work. Water finds its way upwards as well as downwards in bore holes, and cases are known where shallow oil sands have been locally invaded by water liberated from a deep water sand. But for the presence of water in the field, the well casing might be perforated opposite every oil sand pierced and a number of oil sands, in this way, tapped simultaneously. Perforation is largely resorted to now, it is true, especially since the commencement of the deplorable competition, but the risk of admitting water to the oil sands prevents its being carried out as extensively as operators would like.

Water is usually "shut off" against some hard or impermeable bed such as calcareous sandstone, the casing being driven tightly against this. The impervious stratum is then drilled through with a smaller "bit" or drilling tool, and a narrower casing lowered down inside and beyond the outer. The water is always saline. In view of the serious danger of allowing water to enter the oil strata, experiments have been

carried out with cement to ensure a more effectual exclusion of water. In passing, attention may be drawn to Mallet's note of an unlimited supply of fine volcanic ash or "puzziolana," a material very largely used in Europe as an ingredient of hydraulic mortar or cement, on Barren Island in the Bay of Bengal close to the landing place.

"Brine" is reported to have been met with in a well in Block 2N at a depth of 1,300 ft., but it is extremely doubtful whether this was in any way different from

the usual saline water, especially as the latter has been found quite recently at a depth of 1,800 ft. in the Twingon Reserve just below a good oil sand. Theobald considered that there were reasons for believing there were salt deposits low down in the Nummulitics or below them, and that, as the oil occurs in higher horizons, we should therefore expect no further oil on striking copious brine in a well. Whatever the source of the salt may be, the occurrence of saturated "brine," *i.e.*, water saturated with sea-water salts, would be evidence of the probable proximity of beds of salt, not necessarily in Nummulitic strata, and would denote a change in the character of



The Type of Rig in General Use in Burma.

the beds. The well would commence to enter strata laid down under somewhat different conditions and we might reasonably expect to find them unpetroliferous. The connection between salt-water and oil, however, is at present not completely understood.

The system of drilling hitherto universally employed is the American cable system which appears to suit the soft nature of the rocks and the considerable depths to which the wells ultimately go, though a combination of this with the Canadian rod system might be of some assistance when the hole tends to become crooked. The "water flush" system has been tried in Burma as an experiment; but although soft sand was rapidly and easily pierced, the beds of tenacious clay gave trouble and prevented the experiment being sufficiently successful to warrant a supersession of the cable system. This is not the place to describe the details of the various technical operations, which can be perused in any of the many special books on the subject.

Up to quite recently the means used for transporting oil from the fields to the refineries at Rangoon consisted of river "flats" towed by the Irrawadi Flotilla Company's steamers. In 1908 was finished the laying of a pipeline by the Burma Oil Company, between the Yenangyaung field and Rangoon, a distance of 275 miles. The diameter of the pipe is 10 in. and the number of pump stations two. As Yenangyat is connected with Singu and the latter with Yenangyaung this company has a pipe connection between all their producing fields and their refinery at Rangoon.

In 1836 Professor Christison published papers on Petroleum from Rangoon, stating that it was solid at 60° and ordinary English temperatures, but melted completely at 90°, and that he had obtained from it a crystalline mass which he called at first "Petrolin," but subsequently, probably on seeing a paper by William Gregory, recognised as identical with Reichenbach's "paraffin." In 1856 De la Rue and Müller described Rangoon oil as being of the consistency of goose fat and containing 10-11 per cent. of solid paraffin; they identified the constituents Benzene (C_6H_6), Toluene (C_7H_8), Xylene (C_8H_{10}) and Cumene (C_9H_{12}).

In 1867 a more important paper appeared by Warren and Storer, who described Rangoon oil as a yellowish green, thick, greasy matter, with a slight inoffensive odour, and a specific gravity taken at 29° of .875. These able observers isolated Rutylene ($C_{20}H_{20}$), another C_nH_n compound with a boiling point of 187.4°, Margarylene ($C_{22}H_{22}$), Laurylene ($C_{24}H_{24}$), Naphthalene ($C_{20}H_{18}$), Cocinylene ($C_{26}H_{26}$), and probably Pelargone ($C_{18}H_{18}$). The light naphtha was thought to contain other series besides that of C_nH_n , but in small quantities.

H. Vohl analysed Burmese petroleum and obtained 50.9 per cent. of "paraffin masse." Sainte-Claire Deville gave the composition of "Huile brute de Birmanie" as C, 83.8 per cent.; H, 12.7 per cent.; and O, 3.5 per cent.

In 1891 Sir T. H. Holland made a careful examination of eight samples of oil from the shallow wells, 727 ft. and under, of the Yenangyaung field. The specific gravity ranged from .805 to .902 and the flash point generally from 60° to 79° Fahr. (Abel's test)—in one case 132° Fahr. He mentions the large proportion of solid hydrocarbons and the presence of sulphur mostly in the form of sulphuretted hydrogen.

Engler came to the conclusion that the oil from Yenangyaung and Yenangyat consisted chiefly of C_nH_{2n+2} compounds and also that naphthenes were present in small quantities only, but were a little more plentiful in the Minbu oil.

Nevertheless Burma crude oil has a decidedly aromatic smell and there is decided evidence of the presence of the benzene series. A summary of work done upon the chemistry of Burma oil, with additional notes, will be found in Dr. Noetling's Memoir.

Nearly all samples are dark green by reflected light and various shades of brown by transmitted light. There is great variation in specific gravity and flash point among samples from different depths and different wells in Yenangyaung and elsewhere. The specific gravity varies from .80 to .95, but rises to as much as .98 in the case of the heavy oil. This is one of the heaviest oils known in the world and is obtained from a very shallow sand on the two extreme flanks of the Yenangyaung oilfield. It contains no solid paraffin and makes a valuable lubricant. A similar oil is obtained from shallow wells between 450 and 550 ft. deep in Block 2 S Minbu. The flash point of the oil from the deep sands is usually about 60° or 70° Fahr., but frequently sinks below 54° and rises occasionally to 83° or 84°. The following is an average analysis of "Burma crude oil" kindly supplied by Mr. Campbell, chemist to the Burma Oil Company:—

	Per cent.
Naphtha	15
Kerosene	55-60
Solid paraffin	12-14
Lubricating oils	8-12
Loss and coke	5

This is a mixture from the various fields, but by far the greater proportion is Yenangyaung oil. The average viscosity determined in a Redwood viscometer is equivalent to 36 in. at 100° Fahr. and 32 in. at 140° Fahr. (efflux of 50 ccs.)—water under the same conditions being 25 in. and 21 in. respectively.

Dr. Oldham at the time of Yule's Mission made some rough observations on the temperature of oil drawn up quickly from a depth of 270 ft. He found this to be 90°, the actual surface temperature for that day being 79.4°, the mean temperature for that day being 81.5°, and the average mean temperature for several days preceding and following being 82°. With a gassy oil; however, and so much local variation in temperature at the surface, any precise temperature estimations would be misleading and we must be content to accept the general fact that the oil is a little warmer than the atmosphere. From some experiments of my own upon oil brought up in the "baler," the difference varied from 12°-20° in a well 1,160 ft. deep, the surface temperature being 76°-78° Fahr.; a flowing well at the same time 1,250 ft. deep gave 78°, a pumping well 1,185 feet deep 83.5°, and another flowing well 86° Fahr.

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„ Carpathian	6,700	„ „	6 200	„ Le Coq ...	4,700
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Company.	Share Capital.	Value of Shares.	Latest Prices.
	£		
Anglo-Maikop Corporation...	650,000	£1	$\frac{1}{2}-\frac{9}{16}$
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{29}{32}-\frac{31}{32}$
„ 5% Deb. Stock ...	600,000	£100	86-90
Assam Oil ...	310,000	£1	$\frac{5}{8}-\frac{3}{4}$
Baku Russian Petroleum Co.	750,000	10/-	5/0-5/6
Bibi-Eibat Oil Co. ...	312,500	10/-	6/3-7/3
Californian Oilfields...	500,000	£1	$6\frac{1}{4}-6\frac{3}{8}$
European Oilfields ...	385,000	10/-	6/6-7/6
Lobitos Oilfields, Ltd. ...	400,000	£1	25/6-26/6
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{11}{16}-\frac{13}{16}$
Pacific Oilfields, Ltd. ...	250,000	£1	2/0-3/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	20/9-21/9
Russian Petroleum Co. ...		10/-	3/9-4/3
Schibaieff Petroleum, new Pref. (fully paid) s/s	575,000 s/s	—	$1\frac{3}{8}-1\frac{1}{2}$
„ „ new Ord.		(fully paid)	14/0-15/0
Shell Transport and Trading	2,500,000	£1	$5\frac{11}{32}-5\frac{13}{32}$
„ „	1,200,000 Pref.	£10	$10\frac{7}{8}-11\frac{1}{8}$
Spies Petroleum Co. ...	600,000	10/-	22/0-23/0

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	737	740
Caspian Society (Issue 1910) ...	1,000	3,300	3,350
A. I. Mantascheff & Co. ...	250	630	632
Nobel Bros....	5,000	18,425	18,500
Nobel Bros. (Issue 1912) ...	—	955	958
Russian Naphtha Society ...	100	287	289
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	276	278
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	386	$387\frac{1}{2}$

SCOTCH PRICES.

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Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
British Australian Oil Co., Ltd. ...	300,000	£1	2/0
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	38/3
6% Cum. Pref.	100,000	£10	$\pounds 11\frac{1}{8}$
Burmah Oil, Ord. ...	1,100,000	£1	75/0
„ Pref. ...	250,000	£1	25/3
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	$\pounds 8\ 10s.$	85/0
5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	$\pounds 597,192.10s.$	10s.	7/9
Mexican Eagle Oil, Ltd.,			
Non. Cum. Pref. ...	\$8,500,000	\$10	46/0
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	36/6
Pref. (£1 paid) ...	100,000	£1	22/6
Premier Oil Ord. ...	2,300,000	£1	10/0
Pumpherstons Min. Oil Co., Ltd.			
Ord. (17/- paid) ..	110,500	17/-	$5\frac{15}{16}$
6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	8/6
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	73/9
„ „ „ B „ Deb. ...	160,000	£100	$\pounds 153$

DUTCH COMPANIES.

Company.	Quotations (per cent.).	
Dordtsche Petroleum Industrie My., Ord. ...	Aand	187
„ „ Pref. ...	„	187
Royal Dutch Petroleum Co. ...	„	638
Moeara Enim Petroleum Maatschappij ...	„	238
Perlak Petroleum Maatschappij ...	„	51
Sumatra Palembang Petroleum Maatschappij ...	„	238
Zuid Perlak Petroleum Maatschappij, Pref. ...	„	53
Tarakan Petroleum Maatschappij ...	„	101



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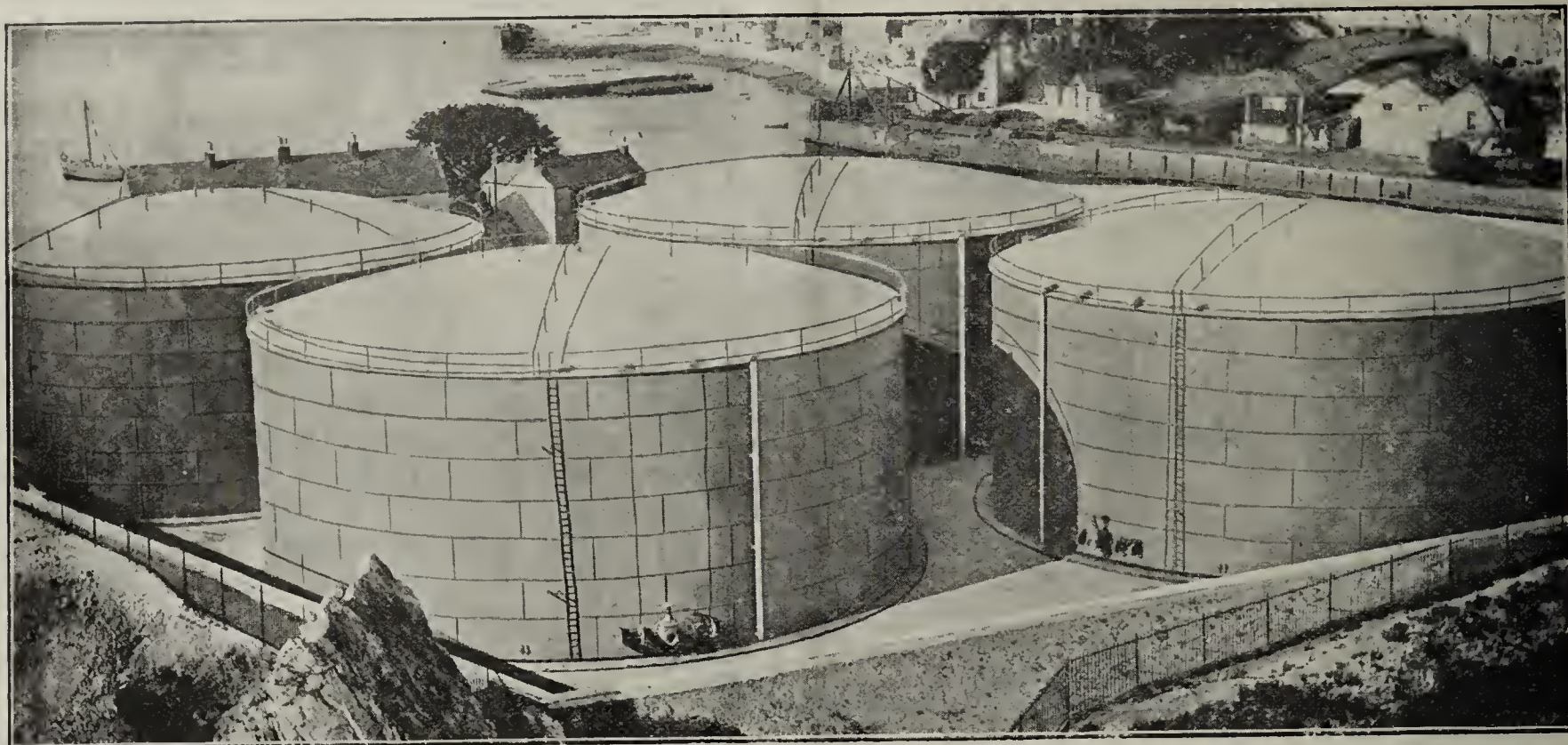
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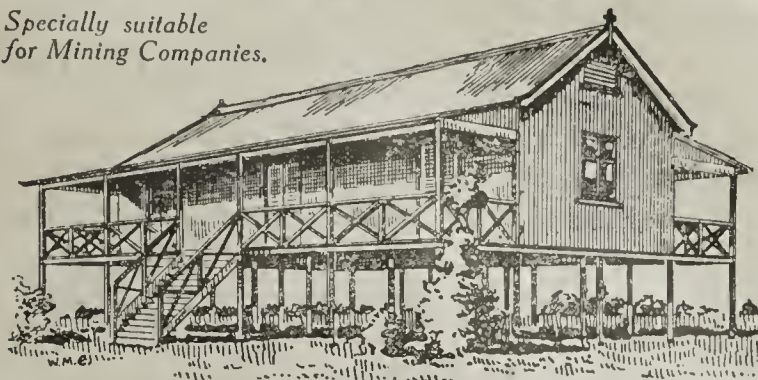
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CHIEF CONTENTS.

	PAGE
Editorial Notes	247
Production of English Companies in Russia	248
The White Mechanical Fuel Oil Burning System	249
The Island of Timor and Its Oil Possibilities	251
The Oilfields of Burma	253
Latest Quotations of Petroleum Shares	256
America and Its Foreign Oil Trade	259
Classified Imports into the United Kingdom	260
New Zealand's First Oil Refinery	261
The Declining Oil Output of Baku	262
The Geology of the Mid-Continent Field of America	263
An Improved Rotary Mud Pump	265
The American Oil Market	268
Home and Foreign Market Intelligence	269
Imports of Petroleum Products	270
The REVIEW Shipping List	271

THE PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, SEPTEMBER 6TH, 1913.

AMERICA AND ITS FOREIGN OIL TRADE.

IN our issue of August 9th last we published considerable statistical data showing the remarkable growth in America's foreign trade, and the almost wonderful expansion it has achieved in the markets of the world during recent years, the information then given being based upon the Government returns for the past few fiscal periods which end in the middle of each calendar year.

We have now received some very interesting supplementary data bearing upon the same important subject, but mainly confined to the countries with which America's export oil trade is conducted, and a careful study of these impresses one with the fact that American petroleum does, without a doubt, rule the markets of the world. Obviously America would not have enjoyed the same position as she does to-day in the oil markets had it not been for the foresight and energy of those captains of organisation—the founders

and present-day officials of the Standard Oil Company, for practically single-handed the Standard has fought the battle for American petroleums throughout the two hemispheres.

In times gone by, the real reward of this campaign was not seen nor appreciated to its fullest extent; to-day, however, it is clear that the Standard Oil Company has been the successful missioner for American petroleum products abroad, and no matter to which country we look, we see the great triumphs which against all kinds of competition have been made for American petroleums.

Let us substantiate our statements in the most brief fashion. We will first take the foreign demand for American illuminating oils and see how it to-day covers the world's markets, and not only that, but by reading between the lines we may see how these oils have penetrated far beyond the limits of the most energetic competition.

Last year American exports in this direction were particularly active in spite of the unprecedented high freight rates which were ruling; in fact an easy record for both volume and value was established. In the twelve months considerably over 1,000,000,000 gallons were shipped abroad, and the largest consumer was the United Kingdom, which took over one-sixth of the total export. By way of making comparison which will show progress, we publish the official figures of the exports of American illuminating oil to foreign countries during the past three fiscal years.

The figures are as under :—

	1913.	1912.	1911.
	Gallons.	Gallons.	Gallons.
Belgium	58,811,411	47,032,277	51,194,876
Denmark	30,104,209	26,966,403	23,494,756
France	52,953,474	37,702,251	45,322,937
Germany	103,983,882	92,289,677	196,405,766
Italy... ..	21,182,834	30,469,655	23,915,541
Netherlands ...	134,204,916	112,747,606	102,904,032
Sweden	28,348,367	20,173,710	27,101,881
United Kingdom ...	169,288,659	166,215,650	164,599,861
Other Europe ...	27,301,414	36,398,039	23,864,859
Canada	16,912,615	14,272,898	9,912,245
Cuba... ..	2,618,416	324,410	1,669,832
Other West Indies and Bermuda ...	6,300,543	6,567,777	5,874,034
Argentina	21,367,616	28,449,374	15,723,182
Brazil	32,828,176	37,491,101	30,846,695
Chile	7,961,224	7,361,898	7,123,137
Other S. America ...	12,903,908	11,148,185	10,860,743
China	79,015,610	68,164,997	107,167,449
British India ...	31,440,972	57,390,564	51,735,360
Dutch East Indies...	13,417,693	14,370,190	19,235,260

Lubricating oil and heavy paraffin oils occupy the second rank of importance in the petroleum export

trade of America, for the total quantity exported during the recently closed fiscal year was over 200,000,000 gallons. Again the United Kingdom takes the greatest slice in this branch of export, her total for the past fiscal year being nearly one-third of the total, or over 60,000,000 gallons. Germany and France come next, but both these countries combined do not import anything approaching the volume of American lubricating oils which find their way into the English markets. For the purpose of fully appreciating the importance of this branch of the export movement, we give in the following table the exports from America for the past three fiscal years, which were as under :—

Twelve months ending June.			
	1913.	1912.	1911.
	Gallons.	Gallons.	Gallons.
Belgium	13,782,639	11,806,155	10,229,815
France	26,136,545	25,575,537	19,449,734
Germany	26,418,269	24,308,176	20,450,031
Italy... ..	7,637,394	9,283,969	8,323,598
Netherlands ...	12,174,926	11,396,618	10,488,285
United Kingdom ...	61,412,394	62,886,561	53,572,129
Other Europe ...	13,243,346	11,188,930	9,027,568
Canada	8,283,384	5,984,517	5,201,817
Mexico	889,577	1,060,745	1,308,964
Cuba... ..	1,631,141	1,466,647	1,301,981
Argentina	5,444,151	4,879,590	3,647,425
Brazil	3,403,672	2,740,496	1,972,690
Chile... ..	1,774,587	1,887,049	1,571,357
British East Indies	9,467,122	9,736,969	8,204,282
Japan	3,670,102	3,260,106	2,977,804
British Oceania ...	5,838,653	4,824,048	4,838,596
British Africa ...	2,108,602	1,945,771	1,512,076
Other countries ...	10,354,995	7,893,313	9,564,343
Totals	213,071,499	202,125,197	173,642,495

In the motor-spirit branch, the exports too are particularly gratifying as showing the healthy state of the American export trade, for during the past fiscal year they have reached a figure which has not been touched since the decline of the Pennsylvanian fields. Canada here takes over the half of the gasolene exports, for naturally inasmuch as Canada does not produce motor-spirit—or at the best in insignificant quantities—she receives all her requirements from the adjoining States. The United Kingdom then claims the bulk of the remainder, for apart from satisfying the needs of Canada, and holding up her head in the United Kingdom, the States has very little motor-spirit for the other markets of the world. With the development of the natural gas-gasolene business, however, in the great oil producing fields of the States, it seems fairly certain that ere long the export trade of gasolene will show considerable expansion, at least so far as imports to the United Kingdom are concerned.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO SEPTEMBER 1st, 1913.

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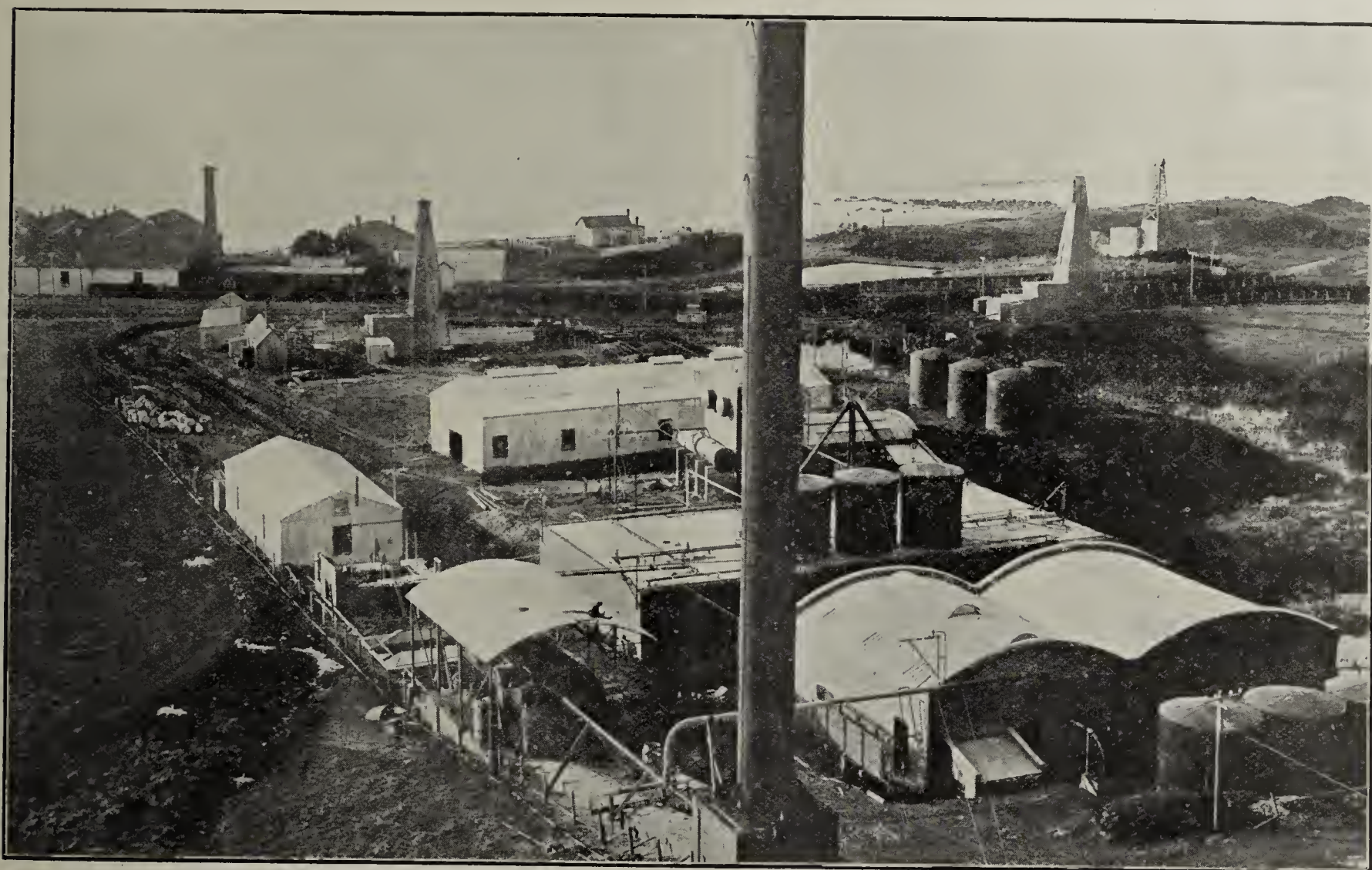
COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Aug. 25.	From Jan. 1.	Since Aug. 25.	From Jan. 1.	Since Aug. 25.	From Jan. 1.	Since Aug. 25.	From Jan. 1.	Since Aug. 25.	From Jan. 1.	Since Aug. 25.	From Jan. 1.	Since Aug. 25.	From Jan. 1.	Since Aug. 25.	From Jan. 1.
Belgium ..	—	—	8,100	476,213	—	—	—	—	3,900	3,900	—	120	—	4,400	12,000	495,633
Canada ..	—	—	—	7,040	2,600	29,250	—	—	—	—	—	—	—	—	2,600	36,290
Dutch Indies ..	—	—	—	—	—	—	—	—	24,657,450	—	341,320	—	—	—	—	24,998,770
Germany ..	—	132,100	35,310	2,231,730	—	600	—	107,120	—	—	400	1,210	4,610	—	36,520	2,476,560
Holland ..	—	—	70	8,020	—	—	—	—	—	5,002,340	—	—	—	590	70	5,010,950
Mexico ..	—	4,001,740	—	—	—	—	—	450,800	—	1,123,800	—	11,213,600	—	—	—	16,789,940
Roumania ..	—	12,853,467	—	—	—	—	—	1,150,000	742,330	2,470,330	1,053,040	9,029,060	—	—	1,795,370	25,502,857
Russia ..	—	8,454,680	1,042,840	10,480,130	—	389,370	—	—	516,730	11,124,350	—	—	—	—	1,559,570	30,448,530
U.S.A. ..	4,452,110	71,189,456	580,580	32,106,564	—	157,340	1,210,200	41,849,820	—	15,250,800	—	2,389,730	6,880	637,965	6,249,770	163,631,675
Other Countries	—	80	8,280	102,870	—	480	—	—	—	4,859,240	—	620	—	1,460	8,280	4,964,750
	4,452,110	96,631,523	1,675,180	45,412,567	2,600	577,040	1,210,200	43,557,740	1,262,960	64,492,210	1,053,040	22,974,850	8,090	699,025	9,664,180	274,355,955

NEW ZEALAND'S FIRST OIL REFINERY.

Opening Ceremony.

NEW ZEALAND papers which reached us this week give historical sketches of the oil industry and full reports of the interesting ceremony of opening the new refinery at New Plymouth on Saturday, July 26th. *The Dominion* (Wellington) says: Moturoa, with its rising forest of oil well derricks, sported long streamers of bunting across the Breakwater Road and between the various buildings that go to make up the refinery. There were about 1,000 people present, and as many as possible crowded into the cannery to hear the speeches, which were of an unusually interesting character. Mr. C. Carter (Chairman of the local advisory board) pre-

map. Few probably of the hundreds of people who attended the formal opening of the refinery were prepared to find so advanced a stage of progress, to see the refined motor spirit being run into tins made on the premises, and cased up ready for sale, and to learn that this spirit is pronounced by those who have given it a practical test to be at least equal to the best imported. The magnitude of the works (they cover about four acres), the number of employees, the smoothness with which the various operations are carried on, filled the visitors with astonishment, and must have convinced the most confirmed sceptics that the industry has been thoroughly established on the most modern scientific lines. The numerous companies which have already started, or are shortly to start drilling, fully justify the completest confidence that in a few months the daily yield of oil will be many times greater than it has



General View of the Refinery showing Wells and Harbour in the background.

sided, and there was a representative gathering on the platform.

Congratulatory speeches were delivered by Mr. Carter, Mr. J. D. Henry, of London, Mr. H. J. Okey, member for the town, Mr. G. Browne, Mayor, and others.

Mr. Okey, M.P., in the absence of the Prime Minister (Mr. Massey), started the Rhodes machinery for the making of oil-cans, and filled the first lot of cans with petrol.

In the evening a dinner was given at the White Hart Hotel.

One of the papers, *Taranaki Herald*, in an editorial says:—

“If New Plymouth has not already established itself on the oil map of the world, as Mr. Henry remarked at Monday night's gathering, the oil industry has certainly arrived at a stage when this field can fairly claim to be marked in bold type upon such a

hitherto been. Further than that, every fresh strike of oil will certainly attract more capital to share in the development of the field. American oil men particularly have kept themselves well informed of the progress of the prospecting operations, and these have reached a stage now that will encourage them to enter the field. It is proved that oil exists here in quantity, and that only skill and capital are required to win it. The Taranaki (N.Z.) Oil Wells, Ltd., has completed a refinery which affords an immediate market for every barrel of oil that can be supplied, for the capacity can be multiplied quickly and at small cost.”

Mr. Henry, who has this week returned to London from the Dominion, says the improvement is due to the opening of the refinery and the starting of drilling operations by new companies in the Moturoa and other fields of Taranaki. Some eight new wells are being drilled. One of the best performances has been the drilling of 550 ft. in three weeks, and some of the new wells are now in drilling at upwards of 2,000 ft., 1,000 ft. less than the average depth at which oil is discovered in these fields. It is thought that new oil strikes will be made during the next few weeks.

THE DECLINING OIL OUTPUT OF BAKU.

INTERESTING LETTER BY Dr. P. DVORKOVITZ.

THE following interesting letter appeared in the leading daily papers on Tuesday, from the pen of Dr. Dvorkovitz, being a pointed reply to the statements recently made on the above subject by the Russian Prime Minister.

SIR,—I have perused with interest the published statement by the Russian Prime Minister in regard to the above subject, in which Mr. Kokovtseff states that he considers it to be highly expedient to substitute coal for oil in view of the continued decline in the output of oil from the Apscheron Peninsula of Russia.

In view of the great number of English interests now operating in the Caucasian oilfields, it is important that such a statement should not be allowed to go unexplained, otherwise a totally erroneous impression may be conveyed.

As in every other oilfield where operations are limited to a comparatively small area, it is obvious that the drawing off of large quantities of crude oil year after year will eventually bring about a diminution in the productivity of the wells in operation. This remark not only applies to Baku but to each of the world's oilfields. The ordinary commercial practice, however, is that the area under exploitation shall be extended in its limits as far as possible, and thus the bringing in of new wells in new areas more than counterbalances the inevitable decline of the old wells. We see this procedure followed all over the globe, with but the one exception of the Baku district, and the explanation is not far to seek. Immense tracts of land already proven petroliferous, are awaiting active exploitation in the Apscheron Peninsula, and the reason that these are not to-day

producing large quantities of crude oil is because they are Government lands.

The Russian Government annually received enormous revenues from the development of the petroleum industry by exacting high royalties upon production, and in the past, in spite of repeated demands, it has steadfastly refused to allow the exploitation of its reserve Crown lands, although they are immeasurably rich in their petroleum wealth. The area at present exploited in the Baku district covers less than a ten miles radius, but if only the Government allowed its Crown lands to come into exploitation, the area would be many times increased, and Russia would be producing several times as much crude oil as she does to-day.

The Government now evidently sees the absurdity of its past policy, for already the question of opening these new areas is being officially discussed. But here again, the Government is effectively barring the way to progress by the imposition of a scale of royalties which cannot allow of the remunerative exploitation of the new districts. I understand semi-officially that during this autumn some of these new lands will be put up for auction, but as though with the avowed intention of defeating its own ends, the Government is arranging fresh conditions which will in practice prove more onerous than the existing obligations.

If only the Russian Government would give a helping hand to its petroleum industry, then Mr. Kokovtseff nor anyone else associated with the production of crude oil in the Russian Empire would have just cause for complaint. The Russian Government, however, was ever blind to its best interests.

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The Geology of the Mid-Continent Field of America.

By Mr. C. N. GOULD.

(Concluded from page 236.)

THE usual cost of drilling a well to the shallow sands, where an initial production of 50 barrels a day may be expected, varies from \$1,000 to \$3,000, while wells 2,200 ft. deep in the Cushing field, where the initial production averages 500 barrels per day, cost from \$8,000 to \$12,000 to drill and equip. It will be understood that in case any considerable number of unproductive wells occur in the region of deep sands the operation may be at a loss, but in case the wells encounter large amounts of oil, the operation is extremely profitable. The general experience throughout the field has been that operation in the thinner sands in the shallow fields is a far safer investment, while the operation of the deep sands is much more speculative, but with the possibility of very much larger profits.

A second factor which governs the accumulation of oil in the Mid-Continent field is that of the structure of the rocks. Throughout the greater part of this region the general structure is that of a broad monocline. The normal dip of the rocks is to the west, decreasing from 50 ft. to the mile near the eastern outcrop of the Pennsylvanian series, to 20 or 10 ft. to the mile in the western part of the Mid-Continent field. In many places, however, this western dip of the rocks has been interrupted by local folding. These folds are usually not strongly marked, and, in fact, are often inconspicuous. In many, perhaps most cases, the folds are in fact nothing but terraces, or "arrested anticlines." That is to say, in certain localities the rocks, instead of having the normal dip to the west, will be found lying nearly level. In comparatively few places throughout the greater part of the field may well-marked eastern dips be observed.

Careful studies of geological conditions have demonstrated that there is, in the Mid-Continent field a rather definite relation between structure of rocks and occurrence of oil and gas. Those who are considered to be the best authority on the subject do not hesitate to say that, so far as observation goes, practically every oil pool in the Mid-Continent field may be accounted for by structure. It must be admitted, however, that it is not always possible to determine this structure from surface observation, so that a careful study of well records is often necessary to determine it; but, when once understood, the relationships between structure and production are usually obvious.

In the southern part of the area occupied by Pennsylvanian rocks, that is to say, in the region from Muskogee south-west to Atoka, and south-east to Fort Smith, Ark., the general western dips, noticed farther north, give way to a series of alternating anticlines and synclines.

There has been no great amount of drilling in this region, and very little petroleum has so far been found therein. It is, however, a very significant fact that,

throughout this region, in practically every case, so far as known, where drilling has been done along anticline folds, there natural gas has been found. The gas fields near Fort Smith and Mansfield, Ark., and near Poteau, Spiro, Kinta, Red Oak and Wardville, Oklahoma, are located on or near the axis of well-marked anticlines. Up to the present time not enough drilling has been accomplished, throughout this part of the Mid-Continent field, to demonstrate the absence or presence of oil in quantity. It is altogether probable, however, that extensive operations will reveal the presence of considerable amounts of petroleum.

Within the developed portion of the Mid-Continent field where, as stated above, the anticlines are not so conspicuous as in the regions just discussed, the largest oil pools almost invariably occur in these localities where an unusual thick sand is situated under an anticline fold, or a terrace. The Bartlesville pool, Glenn pool, Cleveland pool, Cushing pool, and in fact all the larger pools that have produced unusually large amounts of petroleum, contain this very favourable combination of thick sand and structure. In many instances, however, oil has been found in considerable quantities in regions where there is little or no evidence that the normal western dip of the rocks has been interrupted. Under such conditions, however, the drill reveals the fact that the oil sands are unusually thick. Instances of this kind occur in certain parts of the Bartlesville pool, in the Bird Creek pool, in the shallow field, and in many of the pools in the Osage nation.

The amount of production of petroleum in the Mid-Continent field increased from 74,714 barrels in 1900 to 59,343,850 barrels in 1911.

During the past year there has been more development than ever before in the history of the field. This may be accounted for by the steady advance in the price of petroleum. In 1908 the petroleum in the Mid-Continent field sold for 35 cents per barrel. At the time of this writing, May, 1913, the price is 88 cents per barrel, and it will probably increase.

Within the past few months there has been much prospecting in all parts of the Mid-Continent field. The Cushing pool, which bids fair to rival the world-famous Glenn pool, first opened in March, 1912. The daily production in this pool is now 19,000 barrels. Within the year the known areas of a number of older pools have been materially extended and a number of new pools have come to light.

A region occupying some five counties in southwestern Oklahoma, which has heretofore remained unexploited, is now occupying much attention. Within the past year a number of wells have been drilled throughout this region, and practically all have produced oil or gas. Geologists who have studied conditions in this part of the State are of the opinion

that this field, when developed, may rival the field already developed in the north-eastern part of the State.

The amount of natural gas produced in the Mid-Continent field is very great. At least 90 per cent. of all the oil wells so far drilled contain natural gas. In many cases the wells produce gas only; however, gas and oil usually occur in the same sand. In many cases, after the gas in a well has been practically exhausted oil will be produced. To use the driller's parlance—"the well drills itself into oil."

The capacity of gas wells of the Mid-Continent field varies up to 50,000,000 cubic ft. per day. Some of the most extensive gas fields, so far discovered, lie near Iola, Independence and Caney, Kan., and Copan, Bartlesville and Collinsville, Oklahoma.

A well recently drilled to a depth of less than 700 ft. in the new field near Loco, Stephen's county, south-western Oklahoma, is producing 25,000,000 cubic ft. of gas per day.

The gas from the Mid-Continent field is utilised both for manufacturing purposes and for domestic use. Gas from this field supplied the greater part of the cities of Oklahoma and eastern Kansas, and has been piped as far as Joplin, Kansas City and St. Joseph, Mo. Much of the so-called casing-head gas is now being utilised for the manufacture of gasoline or petrol, there being about twenty-five gasoline plants in operation in the field.

The waste of natural gas in this field has been enormous. Legislation has checked, but has by no means stopped, this gigantic waste. At the present time tens of millions of the most valuable fuel the world has ever known is being dissipated into the air each day. For this criminal negligence there seems to be no immediate effective remedy.

At present there is no way of estimating the amount of natural gas now available in the Mid-Continent field, but it is probably between 1,000,000,000 and 2,000,000,000 cubic ft. per day.

There is no means of knowing accurately the possible extent of the Mid-Continent field, but, taking into account all the available data, including the stratigraphy and structure of the rocks, and the known occurrence of oil and gas under existing conditions, it may safely be estimated that, at the present time, not

more than one-fourth of the future available territory in Oklahoma and Kansas has yet been drilled. New fields are constantly coming to light and the limits of old ones are being extended.

Many of the wells now in operation have been producing oil for fifteen years, and are by no means exhausted. At the present rate of development, it will be many years before the productive area of the fields has been demarked. It will be many more years before it all will be drilled. There need be no surprise if the Mid-Continent field is producing both oil and gas one hundred years from this date.

LAUNCH OF THE "CHARLES E. HARWOOD."

ON Thursday afternoon Messrs. Sir W. G. Armstrong, Whitworth & Co., Ltd., launched from their Walker shipyard a steel screw petroleum steamer, the third built by the firm for the Petroleum Carriers, Ltd. The principal dimensions of the vessel are:—Length 330 ft., breadth 45 ft., depth 26 ft. 6 ins. The vessel has been built on the Isherwood system of framing to Lloyd's classification, and is capable of carrying a total deadweight of about 5,000 tons. She is of the two-deck type, with poop, short bridge, and forecastle. The machinery is placed at the after end. The space between the petroleum compartments and the fore peak is arranged as a dry cargo hold. Accommodation for captain, officers, and engineers is provided in the poop, and for the seamen and firemen in the fore-castle. A complete system of pumps and piping is fitted to deal expeditiously with the liquid cargo, and there is a steam windlass, two steam winches, steam steering gear, and electric light throughout. An installation of steam heating coils is also fitted in the oil compartments and the oil-fuel bunker. The propelling machinery is of the triple expansion type manufactured by the Wallsend Slipway and Engineering Company, Ltd., having cylinders 19-in., 31½-in., 50-in. by 36-in., steam being supplied by two boilers 12-ft. by 11-ft. 6-in., fitted with Howden's system of forced draught. The boilers are arranged for oil burning on the Wallsend Howden Patent System. On leaving the ways the vessel was gracefully named "Charles E. Harwood" by Mrs. Sidney C. B. Erskine, of Belfast. Amongst those present at the launch were: Mr. James Boyd; Mrs. Sidney C. B. Erskine; Mr. Walter Bradney, of Messrs. Jacobs & Barringer, London, under whose supervision the vessel has been built; Mr. R. Sexton White; Mr. Edwin L. Orde; Mr. D. R. MacDonald; Miss J. Boyd; Mr. Shute and Captain Nutman.

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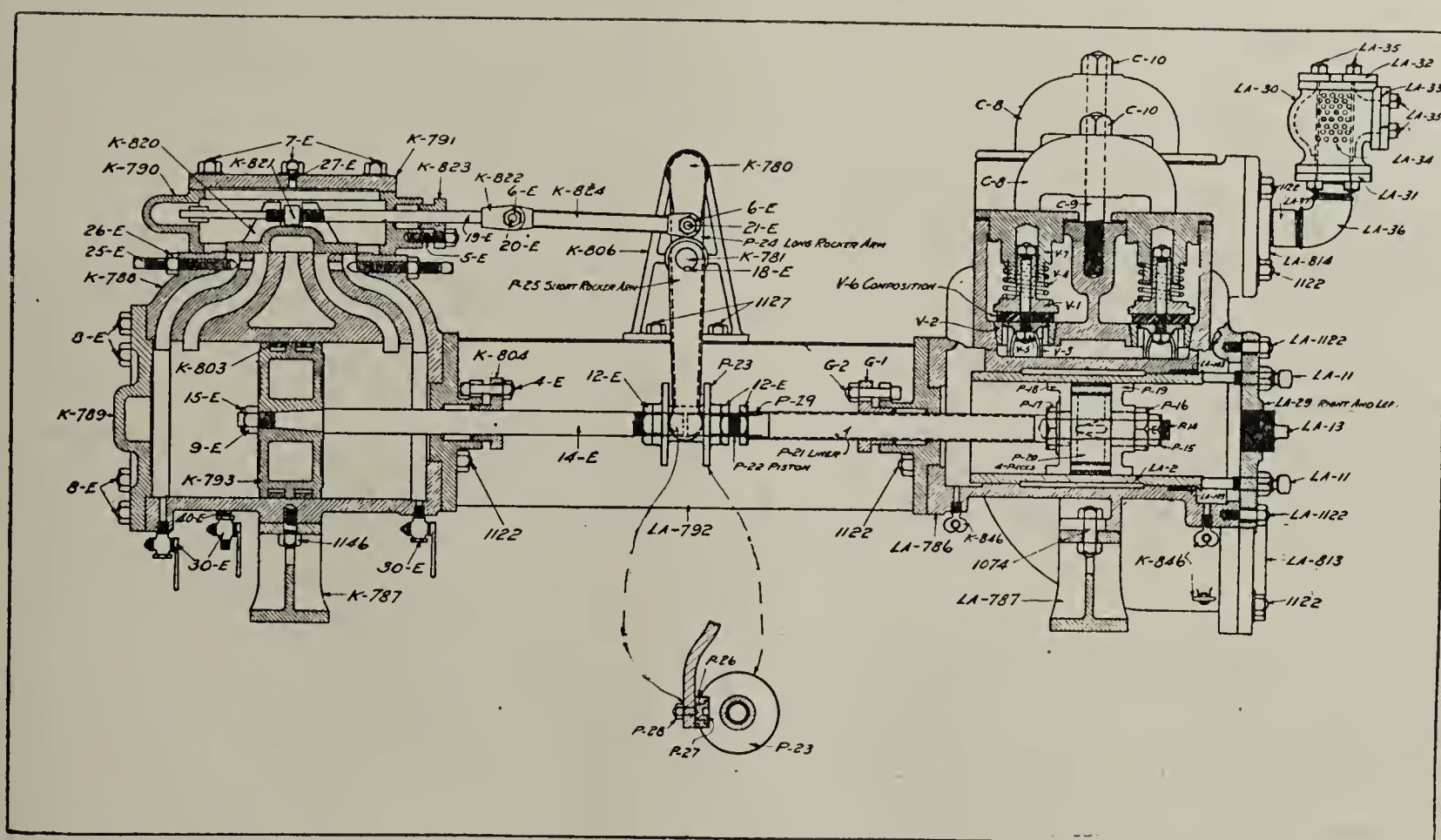
AN improvement which will doubtless result in considerable saving to oil producers has recently been effected by the Oil-Well Supply Company, and which is herewith illustrated.

The rotary pump is one of the most expensive parts of the rotary drilling outfit, due to the fact that a great volume of water and sand and gravel comes constantly in contact with the wearing parts of the water or mud end.

In the improvement under review this feature has been taken care of in such a simple form that replacement of parts may be effected by the most inexperienced men, to whom may be left the care of the pumps.

From an examination of the cut herewith reproduced, it will be observed that the water or mud end of the

The cylinder pump liners differ from the old liners in the manner of packing and holding them in place. The liners in the improved pump are made of steel and fitted with a removable collar. This collar is three-quarters of an inch larger than the outside diameter of the liner, forming a gland, and can be used on new liners as the occasion for replacement arises. A packing box is provided which allows the use of eight or ten coils of three-eighth-inch square flax packing around the liner and at the end on which the collar or gland is screwed. The liner is inserted in the cylinder, which is bored to receive it, and two large set bolts that pass through the cylinder cover, set up against the end of the liner. This results in setting the three-eighth-inch square flax packing firmly against the walls of the



pump is made unusually large and heavy for the purpose of withstanding the great strain and wear. The valve openings are of the pot style, each having its own separate cover and a heavy clamp yoke, with one and a quarter stud bolt for fastening the cover, which is packed with any suitable packing, most commonly one-sixteenth-inch sheet rubber.

The valve cover forms a part of the valve guide by the extension of a hub that projects on the inside. This hub is bored to suitable size to receive the valve guard guide. The valves are composed of four parts, that is, upper valve guard, lower valve guard, valve bolt and the valve.

The valve is a special composition known as the Belatic valve, which, with the new style construction of valves and valve seats, it is claimed has solved the valve trouble in the rotary pump. The valve seats are forged steel of the driven type, which are turned slightly tapering, and fitted into cylinder by skilled mechanics, thus preventing any leakage between the valve seats and the cylinder walls.

cylinder and around the liner, and thereby obviating any leakage. The removal of the liners is made easier by the lubricated condition of the flax packing, which is prepared especially for that purpose.

Some improved features have also been introduced in the piston head that are entirely new, and for which application for patent has been made. These relate to the method of expanding the hydraulic packing, which can be expanded three-eighths of an inch, thus permitting the packing to wear from five-eighths inch square to one-quarter inch by five-eighths inch. This, it will be readily observed, will result in reducing the cost of packing about 50 per cent. This result is accomplished by a quick and simple method of expanding the packing, requiring about three minutes' time. Some of the newly improved pumps have run as long as nine days when the head and liners were new, and at the finishing of a fifteen and a half inch hole, 3,000 ft. deep, it has been found that the packing would last through three and four days without the necessity of replacement.

The heads of the improved pumps are made of flanges that are removable, making it feasible to replace them at comparatively small cost. The piston rod is provided with a cold-drawn steel tube, which prevents wear on the piston rod itself, and this tube can be removed and replaced at very small cost. Through this replacement of flanges and steel tubes, it is possible to prevent wear on the expanding device, so that this will last through several months of service.

On the improved pump the round cross-heads have been adopted for the piston rods, and the rocker arms are provided with a loose roller, making what is said to be the most substantial and reliable valve motion in use on pumps of this type.

PATENTS.

Specially contributed by Messrs. EDWARD EVANS & CO., Consulting Engineers, Chartered Patent Agents and Enrolled Patent Attorneys of the United States, of 27, Chancery Lane, London, W.C.

The undermentioned "Applications Published" are in the stage in which opposition to the grant of patents upon them can be made.

Messrs. EDWARD EVANS & CO. would be pleased to forward a copy of any of the Specifications on request, and on remittance of a P.O. for 1s. to cover cost and postage. They would also be pleased to advise upon the novelty, subject matter, and value of any invention submitted to them by our subscribers.

APPLICATION PUBLISHED.

Burners for liquid fuel.—Andrew Laing, of 15, Osborne Road, Newcastle-on-Tyne. No. 18,649 of 1912. This relates to a liquid fuel burner wherein the oil nozzle opens into an annular duct or space, preferably flaring outwards, across which the steam jet or jets are directed so as to impinge upon the oil while the latter is still more or less confined within the annular space.

Distillation or dehydration of hydrocarbons or liquids likely to form froth or foam.—Jean Rosen, of Apollo Lodge, Mapesbury Road, London. N.W. No. 17,954 of 1912. This relates to the distillation or dehydration of hydrocarbons or liquids liable to froth or foam, by directing the froth or foam formed towards a heating device located above the liquid to be treated, by suitable partition walls, conduits or baffles, and causing it to spread out in thin layers whilst in contact with the heating device or after such contact.

Apparatus for vapourising petroleum and the like.—Albert Olof Melcher Löfgren, Sturegatan, 15, Stockholm, Sweden. No. 18,192 of 1912. This relates to apparatus for vapourising volatile fuel, such as petroleum and the like, comprising a main vapouriser and an additional vapouriser provided with an outlet directed towards the main vapouriser and a second outlet directed towards the additional vapouriser, in which both outlets are provided in one and the same burner nozzle, and are in alignment with one another.

Means for burning hydrocarbons.—Eugene Foni, of 14, Rue Mahmoud, Pacha el Halaki, Alexandria, Egypt. No. 18,395 of 1912. This relates to a device for burning hydrocarbons and consists in the combination of a holder, a vapourising cap closed at its upper end and supported by the holder, a perforated crown in the space between the holder and vapourising cap, a pulverising nozzle arranged below the vapourising cap and a pipe for the hydrocarbon discharging into the nozzle, the gaseous fluid being admitted into a chamber surrounding the pipe, the pulverised mixture produced being vapourised in or beneath the vapourising cap before passing through the perforated crown to be burnt.

Liquid fuel atomiser and burner.—Argentin Sclia, of Chitila, Roumania. No. 26,769 of 1912. This relates to a liquid fuel atomiser and burner in which an elliptical block, at the discharge end of the fuel heating or vapourising tube, is fitted within an elliptical aperture in the casing of the nozzle chamber, the block having a major axis, equal in length to that of the elliptical aperture, but having a shorter minor axis than the aperture, forming upper and lower arcuate orifices.

APPLICATIONS FILED.

Methods for converting higher boiling petroleum hydrocarbons into lower boiling petroleum hydrocarbons.—George William Gray. No. 17,838 of 1913.

Method for converting higher boiling petroleum hydrocarbons into lower boiling petroleum hydrocarbons.—George William Gray. No. 17,839 of 1913.

Hydrocarbons.—William Augustus Hall. No. 18,342 of 1913.

Injectors and burners.—William Davy Gordon Potter. No. 18,362 of 1913.

Method of and apparatus for obtaining oils and other products from carbonaceous matter or other materials containing hydrocarbons.—Walter Gordon Wilson. No. 18,406 of 1913.

Liquid-fuel burners—Launcelot Eustace Smith. No. 18,571 of 1913.

Devices for atomising liquid fuel, particularly applicable to burners using heavy oils.—Carl Hofmann. No. 18,610 of 1913.

Petroleum vapour lamps.—Daniel David. No. 18,828 of 1913.

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The Drilling of Gas and Oil Wells. PROPOSED REGULATIONS FOR AMERICA.

By Messrs. O. P. HOOD and A. G. HEGGEM.

*An Informative -
Bulletin by the -
Washington - - -
Bureau of - - -
Mines. - - -*

(Continued from page 238.)

ARTICLE IV.—ABANDONMENT OF WELL.

SECTION 1. The well operator, when he proposes to abandon any well, shall send a written notice of his intention to the chief well inspector, and the work of plugging the hole or pulling the casing shall not proceed until the well inspector shall be present to see that said plugging is done as prescribed by these regulations, except as hereinafter provided.

SECTION 2. In case the well inspector fails to be present within three days from receipt of notice, then the work may proceed, provided that two men who have had at least three years' experience in the plugging of wells are present and make affidavit in duplicate that the work was done in accordance with the provisions of these regulations, said affidavits to be filed with the chief well inspector and put on record in his office.

SECTION 3. With the notice of abandonment the well operator shall send to the chief well inspector a legally certified copy of the licence to drill, provided the well was drilled under the provisions of these regulations.

SECTION 4. If the well was drilled prior to the passage of these regulations, the well operator shall send to the chief well inspector with the notice of abandonment a description and plat, as described and platted in applications for licence to drill, showing the location of the well.

SECTION 5. Every well, upon abandonment, must be plugged and filled solidly and tightly from the bottom to the top as follows:—

The hole must be filled with rock sediment, sand, clay, or other suitable material from the bottom of the well to a hard and firm stratum below the last string of casing set in above the producing oil or gas sands. If a well inspector shall declare that it is impracticable to fill the cavity in the lowest producing sand, then he shall permit the well operator to place plugs at the top of the lowest producing sand and to fill as hereafter specified.

In the firm, hard stratum three seasoned wood plugs of a diameter equal to the diameter of the hole, and each of a length of at least three (3) feet shall be driven into place. Above the third plug ten (10) feet of clay must be placed and thoroughly tamped down, so as to prevent the passage of oil, gas, or water.

Immediately below the seat of each and every string of casing there shall be driven a seasoned wood plug as described, and all spaces between wood plugs shall be filled solidly and tightly with rock sediment, clay, sand, or other suitable material, as the casing is withdrawn length by length. All plugs shall be driven in place with proper drilling tools.

In the case of a well in which the outside casing has been cemented as heretofore prescribed, said outer casing may be cut off at a point not less than fifty (50) feet above the coal bed and removed, but in any event the whole shall be filled to the surface.

The locations of the plugs herein prescribed are designated with reference to the relative positions of the workable coal beds, and of the gas and oil sands, for the purpose of preventing the passage of oil or gas into the workable coal beds, and of water into the oil and gas sands; and if any well presents a variation in such relative positions of the said strata such additional wood plugs as the well inspector may deem necessary shall be driven into place by the well operator.

SECTION 6. When the work of plugging and filling from bottom to top shall have been completed, the well operator, or his authorised agent, shall make a report in duplicate to the chief well inspector, on forms to be furnished by the well inspector, showing the date of completion of the well, the depths to the coal beds, the names of and the depths to all productive oil or gas measures, the total depth of the well, and the location and kind of all plugs and filling used, and the method followed in placing the same.

SECTION 7. If the well inspector has been present during the performance of the work mentioned in section 6 of this article, he also shall sign the report to the chief well inspector.

SECTION 8. If the well inspector has not been present, the report mentioned in section 6 of this article shall be executed by two men employed on the work, as provided for in these regulations.

SECTION 9. When the coal is removed from around a well casing or liner, the coal operator shall protect said casing or liner from corrosion and mechanical injury by a wall of material suitable to retain two (2) inches of cement mortar between the said wall and the said casing or liner; this protection shall extend from two (2) feet below the mine floor to the roof of the mine, except in the case of an abandoned well that has been plugged and filled as prescribed in these regulations.

ARTICLE V.—CHIEF INSPECTOR OF NATURAL GAS AND PETROLEUM WELLS.

SECTION 1. There is hereby created the office of chief inspector of natural gas and petroleum wells.

SECTION 2. A chief inspector of natural gas and petroleum wells shall be appointed by the governor, or by a commission provided for the purpose, from an eligible list of men who have satisfactorily passed an examination establishing their technical and practical fitness for the position.

SECTION 3. The salary and necessary travel expenses of the chief well inspector shall be borne by the State, which shall also maintain an office provided with suitable filing equipment.

SECTION 4. The chief well inspector shall, before entering on the discharge of his duties, give bond in the sum of \$——, with approved sureties, for the faithful discharge of his duties; and shall take oath that he will discharge his duties with impartiality and fidelity to the best of his knowledge and ability. But no person who is acting as manager or agent of any oil or gas company, or any coal company, or who is interested in operating any oil or gas well or any coal mine, shall at the same time act as chief well inspector under these regulations.

SECTION 5. The chief well inspector shall be authorised to appoint field and office assistants, whose salaries and expenses shall be borne by the State.

SECTION 6. An appeal from the decisions of any assistant may be made to the chief well inspector.

SECTION 7. It shall be the duty of the chief well inspector to carry out all of the provisions of these regulations, and to keep a complete record of, and to prepare for publication a yearly report of, the wells drilled in the State, together with their location, date of completion, depth, character of product, date of abandonment, name of owner, and other information.

The well inspector shall receive and investigate all complaints as to injury, present or impending, due to lack of precaution on the part of any well operator or coal operator. If he finds the complaints against the coal operator to be well founded, he shall lay the facts before the State mine inspector.

In case of failure of the well operator to plug an abandoned well in accordance with the provisions of these regulations, it shall be the duty of the well inspector to have the work performed by contract and to assess the cost against the well operator.

If the well inspector shall discover any well being drilled, operated, or plugged contrary to the requirements of these regulations, he shall order the workmen engaged upon such work to cease at once, and shall not permit the work to be resumed until he is satisfied that the law will be complied with.

The well inspector shall determine whether plats are sufficient for the purpose of accurately locating wells, and if, in connection with the location of any proposed well, the available plats and descriptions are unsatisfactory, he shall cause to be made such new survey as shall be necessary. The cost of said survey shall be borne by the applicant unless it shall be shown that the original plat is correct, in which case the cost of the new survey is to be borne by the State.

(To be concluded.)

The American Oil Market.

Saturday, August 23rd, 1913.

THE only feature in the week in the crude market has been the further advance of 5 cents in mid-continent product, bringing it to \$1.03, which is believed to be a high record for the field. The basis for the improvement is the increasing extent of demand over production, says the *Oil Paint and Drug Reporter*. Since the first of the year the mid-continent oil has risen 20 cents, but during the last year its gain has amounted to 33 cents.

A review of operations for the week in the Eastern fields notes a material gain in completions, but an insignificant increase in new production. For the current summary are shown 272 completions, 3,975 barrels of new daily production and 89 dry holes, as against 247 completions, 3,965 barrels of new production and 78 dry holes previously. The South-eastern Ohio field was the only one to show a decreased number of new wells during the week, but declines in new production were distributed among the Pennsylvania, Kentucky and Lima fields. In West Virginia field work has been handicapped to a large extent by continued drought, and no wells of particular interest have been reported for the week. The best results are still credited to Kanawha county. Shooting the old wells in the Blue Creek field of the county is still being resorted to with encouraging results, but the forced production is only temporary. Considerable new work is reported in progress in Monongalia county, as some of the late tests there have indicated promising results. New stimulus to interest in the deep sand territory of South-eastern Ohio has been reported by a good strike in the Arnold pool of Hocking county. The well found its pay in the Clinton sand and was credited with 125 barrels the first eighteen hours after it had been shot. Considerable test work is under way in this section of the field. A Washington county completion, rated as a 15-barrel pumper from the Big Injun sand, was of interest as being considerably in advance of any other production.

California advices are of interest in the announcement that a leading concern in the States has notified the State Railroad Commission of its recognition of the Common Carrier Pipeline Bill, which recently went into effect, and would agree to have all of its pipelines placed under the jurisdiction of the commission. This action is said to remove all serious opposition to the enforcement of the Act, and it is believed that other pipeline companies in the State will follow suit and file the required statements. Another interesting announcement was the sale of a leading California concern to a powerful foreign combination. This is regarded as one of the largest transactions ever made in connection with the State petroleum industry, and its effects are believed to be far-reaching, as it brings into the field another large marketing concern of sufficient equipment

and financial strength to enter keenly into the ranks of competition. The merged concern had previously been under English control. Its holdings in the State amounted to 6,240 acres, regarded as one of the most valuable properties in the State. A decline of 5 cents per barrel in the price of fuel oil in the Los Angeles market is noted. It was attributed to the bringing of Northern oil into the market.

Refined Products.

The freer scope of operations in the local market for illuminating oil, noted previously, does not seem to have been sustained within the period under review, and the prevailing conditions have indicated a quiet market. No additional charters have been noted, but inquiries for bookings for appreciable quantities for distant shipment are believed to be still current. Scarcity of tonnage operates to hold the market at a level that checks ready closing of engagements. While domestic business has continued of a moderate seasonal character, the approach of the turn of the season keys the general expectations of the trade to a broadening in the demand. Quotations have remained on an apparently steady basis at lately ruling prices for all varieties.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. August 23.	1913. August 23.
Pennsylvania	\$1.60	\$2.50
North Lima	1.04	1.39
South Lima	0.99	1.34
Indiana	0.99	1.34
Illinois, above 30 degrees	0.87	1.30
Kansas and Oklahoma	0.70	1.03
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex	0.75	0.90
Californian, Coalinga light	0.65	0.60
" Kern River heavy	0.35	0.35
CANADIAN OIL	1.44	1.79

REFINED—FOR EXPORT.

In cents.		Week ended August 23.	
		S.W.	W.W.
		110 test.	150 test.
Bulk, New York	per gal.	5.00	6.00
Barrels, New York, cargo		8.70	9.70
Barrels, Philadelphia		8.70	9.70
Cases, New York		11.00	12.00
Cases, Philadelphia		11.00	12.00

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000	\$11.15
1,000 to 3,000	11.25

REFINED—JOBGING LOTS.

In barrels, pkgs. included.	
130 fire test, S.W.	12
150 fire test, W.W.	12½
From tank wagons	9

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29½

TOTAL EXPORTS.

	Current week.	Since Jan. 1, 1913.	Since Jan. 1, 1912.
	Gallons.	Gallons.	Gallons.
Crude	150,000	101,770,429	81,192,740
Refined	11,612,895	556,198,987	577,544,303
Naphtha	1,888,585	66,818,660	94,055,145
Gas oil	32,935	20,819,885	43,722,255
Fuel oil	15,950	84,253,560	45,801,945

WORTHINGTON & BOLER,

LIVERPOOL, LONDON & GLASGOW.

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

September 5th, 1913.

The official prices of Refined Petroleum are as follows:—Russian, 8 $\frac{3}{4}$ d.; American, 8 $\frac{1}{2}$ d.; American Water White, 9 $\frac{1}{2}$ d.; Roumanian, 8d.; Galician, 8 $\frac{1}{4}$ d.

LUBRICATING OILS

There are still no alterations in the official prices, which remain as follows:—

No. 1 Russian, spot and forward, £12. 2s. 6d.
American pale, from £10. 7s. 6d.
American dark, from £12. 2s. 6d.
American filtered cylinder, from £14. 12s. 6d.

FUEL OIL

The current quotations are 75s. per ton, in bulk, ex wharf, and for grease-making oil, 80s.

MOTOR SPIRIT

is unchanged at 1s. 9d. for the best quality retail, in London, and 1s. 7d. for the second quality.

TURPENTINE.

There has been considerable business in American Turpentine since our last report; the latest quotations are for spot 29s. 9d.; September/December, 30s. 4 $\frac{1}{2}$ d.; January/April, 31s. 6d.

LIVERPOOL.

September 4th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8 $\frac{3}{4}$ d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, August 5th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
" Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, September 4th.

Oklahoma crude is still quoted at \$1.03 per barrel. Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, September 4th.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, September 2nd.

The petroleum prices have remained firm. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, September 2nd.

The petroleum market is stronger. Crude oil is quoted at 51 $\frac{3}{4}$ –52 copecs per pood spot. Mazout, 50–50 $\frac{1}{2}$ copecs. Kerosene, 67 $\frac{1}{2}$ –68 $\frac{1}{2}$ copecs.

ROUMANIA. September 2nd.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Bushtenari	Francs.
" " " Moreni	...	6.00–6.50
" " " Tzintea	...	4.30–4.60
" " " Policiori	...	4.25
" " " Bana	0.850	8.75
Paraffin	...	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	27.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	24.00–25.00
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	17.50
Residuals, f.o.b. Constanza	...	6.00
Gas Oil	...	8.00

AUSTRIA. September 2nd.

Crude oil is quoted 9.20 kronen spot. Kerosene, 33 kronen at Oderberg. Benzine, 710/720, 45 kronen; benzine, 740/50, 34 kronen; 770/80, 22 kronen at Oderberg. Gas oil, 8.00 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, E.C., report under date September 4th as follows:—

The market is quiet and prices are unchanged as under:—

1c	18 $\frac{3}{4}$ × 14	124 sheets	110 lbs.	13/6	per box.
1c	20 × 10	225 "	156 "	19/3	"

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

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FOR THE WEEK ENDED SEPTEMBER 1st, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
August. LONDON—				
26	Anglo-American Oil Co. ...	Naphtha	742,330	Kustendje
26	" " " " " " " "	Fuel	263,740	"
26	" " " " " " " "	Lub.	51,760	New York
26	Scott's Wharf ...	"	6,000	"
26	Port Authority ...	"	600	Hamburg
26	" " " " " " " "	"	3,600	"
26	" " " " " " " "	"	2,160	"
26	W. Ostermann & Co. ...	Turps Sub	1,210	Dusseldorf
26	P. Brancher ...	Lub. Gr.	220	Antwerp
27	E. G. Boize ...	Lub. Oil	170	Hamburg
and Gr.				
27	Mercantile Lighterage Co. ...	Lub.	26,760	New York
27	Vacuum Oil Co. ...	Lub. Oil	26,380	"
and Gr.				
28	Anglo-American Oil Co. ...	Gas	1,210,200	Sabine
28	" " " " " " " "	Lamp	1,915,300	Chalmette
28	P. Brancher ...	Lub. Gr.	40	Antwerp
29	" " " " " " " "	"	80	"
29	Port Authority ...	Lub.	360	Hamburg
30	Lubricating & Fuel Oils Co. ...	"	1,042,240	Batoum
30	Hanseatic Maritime Agency ...	"	180	Bremen
30	F. Chiesman & Co. ...	"	6,500	New York
30	J. W. Cook & Co. ...	"	23,480	Philadel.
30	Petroleum Supply Co. ...	Spirit	23,160	Hamburg
30	Motor Owners' Association	Benzine	3,900	Brussels
1/9	P. Brancher ...	Lub. Gr.	60	Antwerp
1/9	Burrell & Co. ...	"	380	"
1/9	Schliemann Oil, etc., Co. ...	Lub.	3,800	N. Orleans
1/9	Snowdon, Sons & Co. ...	"	3,120	"
1/9	Langley, Smith & Co. ...	"	4,360	New York
LIVERPOOL—				
3/7	Anglo-American Oil Co. ...	Lamp	810	Philadel.
26	Midland Railway ...	Lub.	1,450	"
26	American Line ...	"	13,680	"
26	Price's Patent Candle Co. ...	Lub. Gr.	2,400	"
26	Meade-King, Robinson & Co. ...	Lamp	9,600	"
26	Vacuum Oil Co. ...	Lub.	32,760	"
26	Bramwell, Fern & Co. ...	"	1,530	"
26	D. Owen & Sons ...	"	2,700	New York
26	" " " " " " " "	"	1,520	"
26	Burnaby & Chantrell ...	Lub. Gr.	1,830	"
26	" " " " " " " "	"	5,660	Baltimore
26	Dee Oil Co. ...	Lub.	5,200	New York
26	Vacuum Oil Co. ...	"	1,530	"
27	Price's Patent Candle Co. ...	"	2,600	Baltimore
27	" " " " " " " "	"	2,600	"
27	Meade-King, Robinson & Co. ...	"	2,600	"
27	Bennett's Haulage, etc., Co. ...	"	1,250	Philadel.
27	J. T. Fletcher & Co. ...	"	380	Antwerp
29	A. Hopps & Sons ...	Lub. Resid	2,600	Quebec
30	Pickford's ...	Lub. Oil	500	Hamburg
and Paste				
30	Wells, Fargo & Co. ...	Lub.	280	New York
1/9	Anglo-American Oil Co. ...	"	19,280	"
1/9	" " " " " " " "	Lub. Gr.	1,000	"
1/9	W. Crawford ...	"	560	"
1/9	Meade-King, Robinson & Co. ...	Lub.	3,080	"
1/9	White Star Line ...	Lub. Gr.	120	"
1/9	" " " " " " " "	Lub.	1,000	"
1/9	Valvoline Oil Co. ...	"	1,230	"
1/9	Vacuum Oil Co. ...	"	1,740	"
1/9	" " " " " " " "	Lub. Gr.	3,600	"
1/9	Burnaby & Chantrell ...	"	30	Hamburg
1/9	C. W. Field ...	Lub.	400	Antwerp
BARROW—				
29	Anglo-American Oil Co. ...	Naphtha	516,730	Novorossisk
BRISTOL—				
27	J. Hare & Co. ...	Lub.	2,070	Antwerp
29	C. Hill & Sons ...	M. Colza	1,000	New York
29	" " " " " " " "	Lub.	11,240	"
29	Ford & Canning ...	"	4,140	"
29	" " " " " " " "	M. Colza	2,680	"
30	C. Hill & Sons ...	Lub.	760	"
1/9	J. & R. Bush ...	"	22,800	"
CARDIFF—				
28	Bristol Steam Navig. Co. ...	"	1,000	Antwerp
GLOUCESTER—				
1/9	Bristol Steam Navig. Co. ...	"	1,600	Hamburg
HARWICH—				
26	Great Eastern Railway ...	"	30	Antwerp
26	" " " " " " " "	"	360	"
28	" " " " " " " "	"	200	"
30	" " " " " " " "	Lub. Gr.	60	"
30	" " " " " " " "	Lub.	330	"

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
August. HULL—				
26	Wilson's & N. E. Railway ...	Lub.	1,200	Antwerp
26	T. Wilson, Sons & Co. ...	"	22,040	New York
26	W. Gilyott & Co. ...	"	2,600	"
28	" " " " " " " "	"	43,400	"
28	Wilson's & N. E. Railway ...	"	160	Hamburg
29	T. Wilson, Sons & Co. ...	"	4,480	Genoa
29	" " " " " " " "	"	3,480	Bari
29	" " " " " " " "	"	600	Riga
1/9	Wilson's & N. E. Railway...	"	280	Antwerp

MANCHESTER—

26	D. Owen & Son ...	"	3,040	N. Orleans
26	D. Currie & Co. ...	Lub. Gr.	100	Hamburg
27	Vacuum Oil Co. ...	Lub.	200	"
29	Anglo-American Oil Co. ...	"	45,100	New York
29	G. B. Taylor ...	"	1,200	"
29	Meade-King, Robinson & Co. ...	"	4,000	"
29	Diamond Lubricating Co. ...	Lub. Gr.	2,630	"
29	W. W. Jones, Dooly & Co. ...	Lub. Oil	5,000	"
and Gr.				
29	Meade-King, Robinson & Co. ...	Lub.	3,000	N. Orleans
29	Pickford's ...	"	120	Hamburg
30	Liverpool Storage Co. ...	"	16,160	New York
30	" " " " " " " "	"	5,160	Philadel.
30	" " " " " " " "	M. Colza	3,200	"
30	Worthington & Boler ...	Lub.	2,730	"
30	D. Currie & Co. ...	Lub. Oil	270	Hamburg
and Gr.				
1/9	Bramwell, Fern & Co. ...	Lub.	8,490	Philadel.
1/9	Meade-King, Robinson & Co. ...	"	44,120	"
1/9	McLiners, Ltd. ...	"	1,320	"

NEWCASTLE—

28	P. H. Matthiessen & Co. ...	"	220	Bergen
29	Tyne-Tees Steamship Co. ...	"	280	Hamburg
30	P. H. Matthiessen & Co. ...	"	100	Bergen

PORTSMOUTH—

1/9	Bristol Steam Navig. Co. ...	"	70	Hamburg
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SOUTHAMPTON—

8	Bowring Petroleum Co. ...	Lamp	806,400	Sabine
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SUNDERLAND—

29	Anglo-American Oil Co. ...	Fuel	789,300	Kustendje
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DUNDEE—

28	D. Alexander & Sons ...	Lub.	560	Hamburg
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GLASGOW—

26	Clyde Shipping Co. ...	"	80	Ghent
26	" " " " " " " "	Lub. Oil	810	Antwerp
and Gr.				
26	Allan Bros. & Co. ...	Lub.	46,000	Philadel.
1/9	Anchor Line... ..	"	43,090	New York

GRANGEMOUTH—

1/9	Jas. Rankine & Sons ...	"	70	Rotterdam
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LEITH—

28	G. Gibson & Co. ...	"	120	Antwerp
28	Jas. Currie & Co. ...	"	360	Hamburg
1/9	" " " " " " " "	"	420	"

BELFAST—

28	J. C. Pinkerton & Co. ...	Lub. Oil	410	"
and Gr.				
30	British Petroleum Co. ...	Lamp	1,720,000	Port Arthur

9,664,180

Deduct—

LONDON—

1/7	G. & H. Green ...	Lub. Gr.	4,990	New York
23/7	Mercantile Lighterage Co. ...	Lub.	400	"
28/7	P. Brancher... ..	Lub. Gr.	250	Antwerp
11	" " " " " " " "	"	1,510	"

LIVERPOOL—

27/6	W. Johnston & Co. ...	Lub.	2,600	Baltimore
3/7	Anglo-American Oil Co. ...	Gas	2,140	Philadel.

CARDIFF—

11	Furness, Withy & Co. ...	Lub.	800	Antwerp
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BRISTOL—

11	C. Hill & Sons ...	"	800	New York
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9,650,690

From Lloyd's

SEPTEMBER 4TH, 1913.

THE "REVIEW" SHIPPING LIST.

The following abbreviations are used in this table:—L. Left. Pd. Passed. Arr. Arrived. Sp. Spoken. T. Trading. Cl. Cleared
The Anglo-American Co.'s vessels marked thus (*). The Anglo-Saxon Co.'s tankers thus (Δ). Messrs. Lane & Macandrew's thus (□).

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
ADORNA	San Francisco	Pisagua	L. August 21	DAYLIGHT (Br. Bq.)	Philadelphia.	Hiogo	Arr. May 1. In
AMERICAN	New York ...	Antwerp.....	L. August 24	DELAWARE*	Barrow	Philadelphia.	port July 12
APPALACHEE*	London	New York ...	Pd. Dover Sept. 3	DELAWARE SUN (American Schooner)	Marcus Hook	Sabine.....	Pd. Brow Hd. Sept. 3
APSCHERON	Trieste	Batoum	Pd. Dardanelles Sept. 1	DERBENT	London	Tyne	231 miles W. of Jupiter August 25
ARAL	Philadelphia.	Rotterdam ..	L. August 29	DEUTSCHLAND	Rotterdam ...	New York ..	Pd. Southend Sept. 3
ARAS	Immingham	Philadelphia.	Pd. Lizard August 24	DIAMANT	Tyne	Philadelphia.	Pd. Lizard August 26
ARCA	Sabang	Gibraltar ...	L. Port Said Sept. 1	EL LOBO	Payta	San Francisco	Pd. Butt of Lewis Aug. 26
ARTHUR VON GWINNER	—	—	Launched Eins- warden Dec. 24. Since complet'g	EL SEGUNDO	Astoria	San Francisco	L. August 30
ASHTABULA*	San Francisco	Callao	Arr. ab't Sept. 2	EL TORO	Rotterdam ...	Batoum	Arr. August 7
ASTRAKHAN	Tyne	Philadelphia.	Pd. Dunnet Hd. August 29	ELAX Δ	Hong Kong..	Singapore ...	Pd. Gibraltar August 28
AUREOLE	Port Arthur. & Norfolk, Va.	Antwerp.....	Pd. Dover Sept. 2	ELISE MARIE	Baton Rouge	Malmo	L. August 30
AZOV	Callao	Talara	L. July 31	EMANUEL NOBEL...	Batoum	Antwerp.....	L. August 26
BAKU STANDARD...	Hamburg ...	—	L. August 30	ENERGIE	Philadelphia.	Tuxpan	Pd. Dardanelles Sept. 1
BALAKANI □	Manchester ..	New York ...	Arr. Sept. 3	ERIVAN	Kustendje ...	—	L. August 20
BATOUM	Port Arthur	Sheerness....	L. Newport News Aug. 18	ESTURIA	Kurrachee ...	—	Pd. Gibraltar August 28
BAYONNE	Batoum & Savona	Genoa	Arr. August 23	EUPLECTELA Δ	Rotterdam ...	Plymouth & Malta	L. August 22
BEACON LIGHT	Tyne	Port Arthur.	Pd. Dungeness August 27	EXCELSIOR	New York ...	Hamburg ...	L. Plymouth Sept. 4
BLOOMFIELD	Tyne & ThamesHaven	Tuxpan	Pd. Lizard Sept. 3	F. A. TAMPLIN	London	P. Mexico ...	L. August 26
BORJOM.....	Alexandria...	Batoum	Cl. Constanti- nople Aug. 10	FRANCE MARIE.....	—	Port Arthur.	Pd. Prawle Pt August 16
BRILLIANT (Br. Bq.)	Philadelphia.	Hiogo	Pd. Anjer June 29	(Belgian Ship)	—	—	Arr. August 28
BRILLIANT	Philadelphia.	Copenhagen..	L. August 28	FUMI MARU	Macassar ...	Tarakan	L. July 8
BRITISH SUN	Newport News	Port Arthur..	15 miles E. Cape Hatteras August 24	GEESTEMUNDE	Tuxpan	New York ...	Arr. August 24
BROADMAYNE	Calais	Tyne	Arr. Aug. 16. In port Sept. 2	GENESSE*	London	Philadelphia.	Pd. Scilly August 26
BUFFALO	Hangkow ...	Shanghai ...	Arr. August 29	GEORGIAN PRINCE	Galveston ...	—	L. August 26
BULLMOUTH Δ	Tientsin	Balek Pappan	L. August 17	GOLDMOUTH Δ	Cardiff	Bizerta	Pd. Gibraltar Sept. 3
BURGERMEISTER	Baton Rouge & Norfolk, Va.	Swinemunde.	Pd. Dunnet Hd. Sept. 3	GUTHEIL	Tuxpan	—	Sunk after colli- sion Baton Rouge April 28
PETERSEN	Baltimore ...	Tampico.....	L. August 25	H. C. HENRY.....	Amsterdam ..	Seattle	L. Lobu Aug. 20
C. A. CANFIELD* ...	San Francisco	Yokohama ...	L. July 5	HAGEN	Hamburg ...	Kiel.....	Arr. July 25
CALCUTTA (Br. Bq.)..	Balek Pappan	Gibraltar ...	L. Colombo August 24	HAINAUT (Barge) ...	—	—	T. between Tampico and Aransas Pass
CAMILLO	—	—	T. United States, Pacific	HARPORT	San Francisco	Pisagua	Arr. ab't Sept. 3
CAPTAIN A. F. LUCAS	Rotterdam ...	Tyne	Arr. August 30	HARRY	New York ...	San Juan ...	L. August 23
CARDIUM Δ	Hull	New Orleans	Pd. Sand Key Sept. 3	LUCKENBACH	NewportNews	New York ...	Arr. July 31. In
CARPATHIAN □	Goole	Galveston & Gulfport	L. Newport News Sept. 1	HARRY WADSWORTH*	Copenhagen	Philadelphia.	port August 23
CAUCASIAN □	Rotterdam ...	Sabine.....	Pd. Lizard August 29	HELIOS	Messina	Novorossisk..	Arr. August 30
CHARLOIS.....	New York ...	Tampico	L. August 18	HERA	Tampico	Sabine	Arr. August 30
CHATHAM.....	New York ...	Antwerp.....	L. August 23	HERBERT G. WYLIE	Port Arthur.	U. Kingdom or Continent	Arr. August 22
CHESTER	Philadelphia.	Algiers	Pd. Gibraltar Sept. 2	HERMIONE	Baton Rouge	Campana ...	L. Norfolk, Va., August 25
CHEYENNE	—	—	T. W.C. South America	HESPERUS	Perth Amboy	New York ...	Pd. Pernambuco August 28
CIRCASSIAN	New York ...	Tampico.....	Pd. Sand Key August 16	HORLEY	Batoum	—	Cl. August 18
PRINCE	—	—	L. Algiers August 30	HOTHAM NEWTON	London	New Orleans	Pd. Dardanelles August 29
CITY OF EVERETT	Avonmouth..	Kustendje ...	L. August 21	HYRCANIA	St. John, N.B.	Quebec	Pd. Lizard August 30
CLAM Δ	P. Mexico ...	London	Arr. August 29	IMPEROYAL	Pillau	Philadelphia.	Arr. June 3
CLEARFIELD	Stettin	New York ...	Pd. Dover Sept. 3	IMPOCO	—	—	Pd. Cape Wrath August 24
CLIO.....	& Tyne	New York ...	Pd. Perim August 23	IOANNIS COUTZIS...	Tyne	New York ...	On Govt. Service
COMANCHEE	Suez	Abadan	L. August 18	IROQUOIS* (Towing Barge Navahoe)	Rangoon.....	Port Said ...	Arr. Sept. 1
CONCH Δ	Tyne	Philadelphia.	Arr. August 21	J. B. AUG. KESSLER	Marseilles ...	Rotterdam ...	L. August 31
CONRAD MOHR	Iquique	San Francisco	L. August 27	JULES HENRY	Singapore ...	Hiri	Arr. May 24. In
CORDELIA	San Francisco	Tientsin	Arr. August 23	(Fr. Bq.)	San Francisco	Saigon.....	port Sept. 2
COWRIE Δ	Havana	New York ...	L. August 29	JUNO	& Hong Kong	—	L. August 19
CURRIER	—	—	L. August 29	KANAKUK	New York ...	Passages	Arr. ab't Aug. 25
CUYAHOGA* (Now named Massasoit)	—	—	L. August 29	KASBEK.....	Hong Kong..	Kobe	Arr. August 27
CYMBELINE	New York ...	Havre Roads	Arr. August 23	KIYO MARU.....	Kustendje ...	Algiers	L. Shimonoseki August 12
CZAR NICOLAI II...	Batoum	Hamburg ...	Arr. August 29	KOMETA	Batoum	Thames Haven	Pd. Dardanelles August 31
DAGHESTAN	Manchester ..	New York ...	Pd. Dover Sept. 2	KREMLIN (late Snowflake)	—	—	Pd. Dardanelles August 27

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
KURA	Dantzig	New York ...	Pd. Cape Wrath August 25	RENDOVA (Br. Bq.)	New York ...	Seville	Sp. August 19, 42 N., 48 W.
LA CAMPINE	Antwerp.....	New York ...	L. August 29	RION	Copenhagen & Immingham	Philadelphia.	Pd. Dungeness August 26
LA FLANDRE	Philadelphia.	Antwerp.....	Arr. August 28	ROCK LIGHT □	Naples	Port Arthur (Tex.)	Arr. Newport News Sept. 3
LA HESBAYE	Antwerp.....	Tees.....	L. August 30	ROMANY Δ	Novorossisk..	Thames Haven	Pd. Gibraltar Sept. 2
LACKAWANNA*	Manchester...	New York ...	Pd. Fastnet August 17	ROSALIND	Tyne	Baton Rouge	Pd. Dunnet Hd. August 25
LE COQ □	Vigo	New York ...	L. August 26	ROTTERDAM	New York ...	Rotterdam...	L. August 27
LEUTSCH	—	—	T. between Black Sea and Alexandria	ROUMANIAN □	Port Arthur & Newport N.	Belfast	Arr. Sept. 2
LUCELLUM	Port Arthur..	Norfolk, Va..	L. August 26	ROUMANIAN	New York ...	—	L. August 31
LUCERNA	Hamburg ...	Malta	L. Plymouth August 27	PRINCE	Sabine.....	Tampico	L. August 21
LUCIGEN	Port Arthur..	Portsmouth..	L. August 27	RUSSIAN PRINCE...	Singapore ...	Tarakan	L. August 26
LUCILINE □	Rouen	Tyne	Arr. August 7. In port Sept. 2	SALAHADJI Δ	Sabine & Norfolk, Va.	Bombay	Arr. ab't Aug. 25
LUMEN	Tyne	New York ...	Pd. Cape Wrath August 20	SAMOSET	—	—	T. Mexican Coast
LUTETIAN □	Novorossisk..	Havre & Rouen	L. Havre Sept. 3	(late Cadillac)	—	—	T. Mexican Coast
LUX □	New York ...	Gijon & Santander	L. August 27	SAN ANTONIO.....	—	—	T. Mexican Coast
MAKKAVOI	Kustendje ...	Alexandria..	Cl. Constanti- nople Aug. 28	SAN BERNARDO ...	—	—	T. Mexican Coast
MANNHEIM	Hamburg ...	—	Pd. Dover Sept. 4	SAN CRISTOBAL	London & Philadelphia	Puerto Mexico	L. New Orleans August 30
MARGARETHA	Avonmouth..	Philadelphia	Arr. August 24	SAN DUNSTANO.....	Manchester...	Tuxpan	L. August 26
MASCONOMO	San Francisco	Muroran.....	L. August 8	SAN EDUARDO	Tyne	Tuxpan	Pd. Dover August 18
(late Winnebago)				SAN FRATERNO.....	New Orleans.	Rotterdam ...	L. Port Eads August 23
MASSASOIT	Bombay	Singapore ...	Arr. ab't Aug. 21	SAN GREGORIO	Tuxpan	New York ...	Arr. August 30
METEOR.....	Batoum	London	Pd. Sagres Sept. 2	SAN RICARDO	Philadelphia.	Dublin & Belfast	L. August 24
MEXICAN PRINCE..	Hong Kong..	Saitozaki ..	Arr. August 25	SAN SILVESTRE.....	—	—	Launched Tyne Aug. 20. In port Aug. 26
MIJDRECHT	Kustendje & London	Hamburg ...	Cl. London Sept. 3	SAN TIRSO	—	—	Arr. August 20
MINA BREA.....	San Francisco	Chili ...	L. Callao August 3	SANTA RITA	Kalahului ...	Vancouver...	—
MIRA	New York ...	Venice	L. Algiers August 30	SARANAC*	—	—	—
MITRA	Hong Kong..	Singapore ...	L. August 29	(now named Satanta)	Philadelphia.	La Pallice ...	Arr. August 29
MOHAWK*	Mexico	New York ...	Arr. June 25. In port August 23	SAXOLEINE	—	—	Launched Dun- dee April 24, since complet'g
MUREX Δ	Balek Pappan	Tarakan.....	Arr. August 30	SEBASTIAN	San Francisco	Calcutta	Arr. Negapatam ab't Aug. 25
NARRAGANSETT ...	London	New York ...	Arr. August 26	SEQUOYA	Port Arthur..	Avonmouth..	L. August 31
NATICA	Rangoon.....	—	Pd. Sagres Sept. 1	(late Tamarac)	Calcutta	Rangoon.....	L. August 5
NEKO	Hamburg ...	Leith	Arr. July 6. In port Sept. 2	SERVIAN □	New York ...	Tampico	Arr. August 18
NELSON	Guanica	New Orleans	Arr. August 22	SHWEDAGON	Baton Rouge	Vallo	L. August 26
NEW YORK*	Rotterdam ...	New York ...	Arr. Sept. 1	SIOUX.....	Tampico	New York ...	Arr. July 28. In port August 23
NIAGARA	San Francisco	Hankow	Arr. ab't Aug. 29	SIRIUS (Ger.)	Colombo	Persian Gulf	L. July 23
NORMAN BRIDGE...	Tampico	New York ...	Arr. August 29	SOCONY	Tuxpan	New York ...	Arr. August 26
OBERON.....	Tocopilla ..	San Francisco	Arr. August 27	SOYO MARU.....	London	Rangoon.....	Arr. Aden Sept. 2
OCEAN	Sabine.....	Amsterdam ..	L. August 21	STANDARD	Abadan	Sabang	L. August 22
OILFIELD	Hamburg ...	Philadelphia.	Arr. Sept. 2	STROMBUS Δ	—	—	—
ORIFLAMME □	Havre.....	Tyne	Arr. August 8. In port Sept. 2	SULTAN VAN	Marcus Hook	Sabine.....	231 miles N. of Jupiter Aug. 25
OSAGE	Rotterdam ...	New York ...	Arr. August 31	LANGKAT Δ	Macoris	Flushing ...	Sp. Aug. 16, 41 N., 52 W.
OTTAWA*	Kustendje & Plymouth	Sunderland..	Arr. August 29. In port Sept. 2	SUN	Baton Rouge	Antwerp.....	L. Norfolk, Va., August 20
OURAL	Antwerp.....	Batoum	Pd. Dardanelles August 29	SUNLIGHT (Br. Bq.)	Tyne	Philadelphia.	L. Sept. 3
PATELLA Δ	Port Said ...	Gemsah	Arr. Sept. 1	SURAM	—	—	T. E. Indies
PAUL PAIX.....	Dunkirk.....	Swansea	Pd. Mumbles Sept. 3	SUWANEE*	Tuxpan	New York ...	Arr. August 28
PAULA	Ymuiden ...	New York ...	Pd. Lizard August 22	TECUMSOH	Novorossisk..	Colombo	Pd. Perim Sept. 1
PAWNEE	—	—	Launched Tyne July 30. In port Sept. 2	TELENE Δ	London.....	Port Arthur (Tex.)	Arr. Sept. 3
PECTAN	Antofagasta..	San Francisco	L. August 17	TEREK	Antwerp.....	Port Arthur..	Arr. August 10.
PENNOIL	Port Arthur..	Dover	L. August 23	TEXAS	Rouen.....	Philadelphia.	L. August 25
PETROLEINE	New York ...	Bordeaux ...	Arr. Pauillac August 29	TIFLIS	New York ...	Sabine.....	Arr. August 25
PETROLEUM	Portland.....	New York ...	L. August 23	TONAWANDA*	—	Port San Luis	Arr. August 29
(Admiralty Steamer)				TRINCULO.....	Port Tampa..	Mexico	L. August 23
PHOEBUS	San Francisco	Pisagua	L. August 18	TRINIDADIAN.....	New York ...	Hamburg ...	L. August 24
PINNA □	New Orleans.	London	L. Newport News August 29	TRITON	Hong Kong ..	Tarakan	Arr. August 28
PONUS	San Francisco	Muroran.....	L. July 23	TROCAS Δ	Rotterdam ...	Cardiff.....	Arr. Sept. 1
POTOMAC*	Selzaete	New York ...	Arr. August 28	TURBO	New York ...	Calcutta	Arr. ab't Aug. 25
POWHATAN	San Francisco	Calcutta	Arr. about August 15	UNCAS	Rouen	New Orleans.	Arr. Sept. 3
PROMETHEUS.....	Baton Rouge	Campana & Callao	L. Port Eads August 19	VEDRA	La Pallice ...	Philadelphia.	L. August 26
PRUDENTIA.....	Maurer	Trinidad...	L. August 29	VILLE DE DIEPPE	—	—	Launched Clyde July 12
PURELIGHT.....	Hamburg ...	Shields...	Arr. Sept. 2	(Norwegian Barque)	—	—	—
QUEVILLY (Fr. Bq.)	Rouen	New York ...	L. Havre August 27	VITRUVIA.....	Palembang...	—	L. August 28
RADIOLEINE II. ...	Marseilles ...	—	Pd. Sand Key Sept. 1	VOLCANUS	Balek Pappan	Hong Kong..	L. August 29
RANELLA	Singapore ...	Barrow	Arr. Sept. 2	VOLUTE Δ	San Francisco	Japan	L. August 17
				WABASHA...	New Orleans	Tampico	L. Port Eads August 21
				WANETA (lt. Impoco)	Bombay	Kustendje ...	Arr. August 31
				WASHINGTON	Batoum	Dunkirk ...	Pd. Dardanelles August 26
				WEEHAWKEN	Astoria	Monterey ...	L. August 17
				WILLIAM F. HERRIN	New York ...	Stockholm...	L. August 26
				WILLKOMMEN	—	—	—
				WINNEBAGO (now named Masconomo)			

The Petroleum Review Directory.

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Thom, John M., Patricroft, near Manchester.

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Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.

Homelight Oil Co., Ltd., 14, St. Mary Axe, E.C.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

LIQUID FUEL BURNERS.

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Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

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Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.

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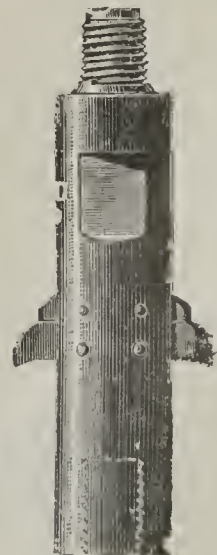
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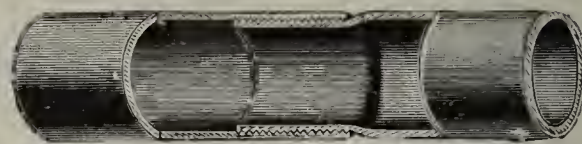
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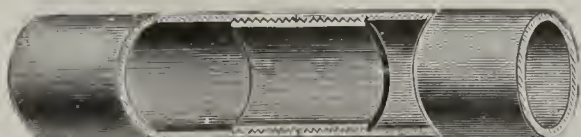
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THE PETROLEUM REVIEW.

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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

The Development of Ecuador.

THE contract recently concluded by Lord Murray of Elibank with the Government of Ecuador with a view to the development of the country's oil and kindred deposits has, not unnaturally, excited considerable interest both in this country and in America. There is no doubt that Messrs. S. Pearson & Sons, the well-known contractors, to whom the concession will be assigned, have a right to congratulate themselves upon the arrangement; it is also a matter upon which the Government of Ecuador may feel justly proud of having brought about. In fact, we are rather inclined to think the greater bargain is with the Ecuador Government, who, under the "concession," will see the mineral wealth of the country opened up in a manner which few other firms, however influential they may be, could ever hope to do. The presence of petroleum in Ecuador has been recorded many years ago, but so far no systematic search has been instituted, nor has the crude product been unearthed in anything approaching commercial quantities. Therefore, the future of the fields is somewhat problematic. In such circumstances Messrs. Pearson & Sons have a great work before them before it can be said that they have secured a real bargain, and whatever ultimate success is theirs will be but a reasonable reward for their enterprise and foresight.

America's Petroleum Exports in July.

DURING July there was a perceptible lull in the exports of American petroleum products, the total of 176,000,000 gallons being substantially below that for the corresponding period of last year, though, owing to the enhanced prices, the total value was somewhat greater. Taking the total export for the seven calendar months of the present year, however, the volume gain is almost

100,000,000 gallons, while the value has increased by no less than \$14,000,000. The increase in the export movement is reflected in all exported petroleum products, thus showing a continued steady expansion in the consumption of American petroleum on the world's markets. One feature in the month's returns is that Californian refined oils are now in demand abroad, for during the month 6,000,000 gallons of illuminating oil were shipped by the Union Oil Company to China, this being the first refined oil sent from California into Chinese territory.

Galicja's Declining Production.

IN spite of efforts directed towards increasing the crude oil output of Galicja, the production still continues to decline. During the first half of last year it reached the low ebb of 536,000 tons, but for the corresponding period of this year it has dropped to approximately 443,000 tons, a substantial decline which is not readily accounted for. It must be evident, however, to the average oil producer in the Boryslaw-Tustanowice field that the future success of the industry rests in the exploitation and the proper development of those extensive virgin fields which are only now claiming the attention of the drill. The petroleum industry of Galicja is of too great an importance to be dealt with lightly, even by the producers themselves, and we are not surprised to find that a combined attempt is now being suggested to open up those new territories which alone will be the life and soul of Galicja's future oil industry. We have adequate proof of the fact that little more than a fringe of the petroliferous territory has yet been touched, large though the quantities may be that have so far been brought to the surface. To-day we know there is a mild boom in Galicja's new oil regions, and we feel satisfied that if these receive the consideration they deserve, Galicja's production need never decline.

Mexico and England.

WITHOUT a doubt the prolific regions of Mexico are only now commencing their run of power upon the markets of the world. The creation of a petroleum industry in any one country which is destined to be of international importance must necessarily be slow. But in this regard Mexico seems to be the exception. From a Republic of little value in the eyes of the petroleum industry, it has with one leap become a much-sought-after venue for crude oil production, and the fact that the British Admiralty has modified its liquid fuel specification in order to include Mexican crude oil, is in itself suggestive of what we in this country think of the potentialities of the Mexican fields. It may not be common knowledge that a few years ago Mexico was

unknown as a supplier of fuel oil for this country: to-day she is our chief source, a fact which is corroborated by the official returns, which show that up to the end of last month out of a total of 22,000,000 gallons imported into the United Kingdom one half of this quantity of liquid fuel came from the Mexican fields. Mexico, we believe, is on the verge of enormous developments; but what is not generally appreciated is the fact that the oil of the Republic not only presents itself as a liquid fuel proposition, but its refining is suggestive of great possibilities. In a word, the half of the tale of Mexico has yet to be told.

LIQUID FUEL IN BRAZIL.

THE first oil tanker to arrive in Brazil entered Rio de Janeiro a few weeks ago, carrying 4,500 tons of oil fuel. Of this cargo 1,500 tons were for the local gas company, and the rest for a United States company which had chartered the vessel. The latter company has two large tanks, of capacity 5,400 tons and 1,700 tons, on a hill overlooking the new quay wall. These tanks are connected with the quay by pipes which join on to the oil ship when she arrives. A very strong pumping force is required to send the oil up the steep (in one place perpendicular) rise to the tanks. The ease and rapidity with which the oil can be discharged were shown by the fact that the ship above referred to was able to lie outside another steamer berthed at the quay, and to discharge her oil by means of a pipe carried over the other ship.

Mr. Hamblock, the acting British Consul-General, points out that one of the difficulties to be faced in the sale of oil-burning apparatus in Brazil has been the impossibility of being able to give any guarantee as to regularity of supply or stability of price of the oil. Although it might be satisfactorily proved that much less oil and labour are required to produce the same heat as coal, it would be difficult to do much business as prospective buyers would want to know exactly what their expenses would be. It is understood that the importers of the above-mentioned cargo have undertaken to fix a stable price in Rio de Janeiro for one year.

ROUMANIAN PRODUCTION DURING JULY.

THE total production of crude oil on the Roumanian fields during July amounted to 153,337 tons, as against 16,555 tons obtained during June. The production of the various fields during the month was as under:—

	Tons.
Bushtenari-Calinet	14,151
Campina-Poiana	20,864
Moreni	84,478
Chiciura-Gropi	1,480
Baicoi-Tzintea	8,634
Bordeni Recea	8,121
Filipeshti de Padura	932
Other fields	152
Total for Prahova district	138,812
„ Dambovitza district	3,685
„ Buzea	8,846
„ Bacan	2,054
Grand total	153,337

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended September 6th was 116,000 poods.

SPIES PETROLEUM COMPANY, LTD.—Production, week ended August 31st, including 10,065 poods pumped from ambars, was 179,315 poods, or about 2,892 tons. The total production for the year, from Jan. 14th to August 31st, was 9,133,570 poods, or about 147,316 tons. The total production for the corresponding period last year was 10,867,515 poods, or about 175,282 tons. Price of crude oil at Baku, 53¼ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD. — The production of crude oil for week ended September 6th was 14,190 poods (229 tons).

EUROPEAN OILFIELDS CORPORATION, LTD. — The production for the week ended September 7th was 102,700 poods, or 1,656 tons. Crude oil at Blacktown is now 52½ copecs per pood.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended September 6th was 119,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended September 6th was 27,984 poods (451 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended September 6th was 7,700 poods, or 124 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended September 7th was 13,546 poods, or 219 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended August 30th, 105,860 poods or 1,707 tons.

NORTH CAUCASIAN OIL FIELDS, LTD. — Production for the week ended September 2nd was 58,300 poods, or 618 tons. Corresponding period last year, 730 tons. Total production to date for this year, 65,855 tons, last year 18,724 tons. Owing to a telegraphic error, this figure was incorrectly given in our last issue. For the week ended the 9th inst., there was no production owing to the strike.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended August 31st was 1,080 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended September 6th was 14,500 poods.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended September 6th was 14,201 poods (229 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended September 6th was 1,390 poods (22 tons).

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NEW BULK OIL INSTALLATIONS AT BRISTOL.

FOR some time past the Bristol Docks Committee have been in negotiation with the Anglo-Mexican Petroleum Products Company, Ltd., for the lease to them of land at Avonmouth for the purpose of erecting a dépôt for the carrying on of a large import trade in fuel oil, petroleum, and petroleum products. The committee have now issued their report upon the subject, which states that they have, subject to the approval of the council, agreed to lease to the company a plot of land on the Royal Edward Dock Estate, between the western arm and the river Severn, ten acres in extent, to the north of the graving dock, for a term of fifty years, from September 29th, 1913, and with an option to the lessees of determining the tenancy at the end of ten, twenty, thirty, thirty-five, forty or forty-five years, at a rent of £90. 15s. per acre, the lessees on their part covenanting to construct an installation equal to a minimum storage of 9,000 tons.

For the proper berthing of vessels which will trade to the port in connection with this traffic it will be necessary to further dredge out and provide berthing arrangements in what is known as the western arm of the Royal Edward Dock. The cost of this work, including the necessary dolphins, railway approaches, and other subsidiary works, is estimated approximately at £25,000. Practically the greater part of this expenditure only anticipates what may be required to be done hereafter, when the time arrives to complete the scheme of the western arm.

In view of the large developments of the oil trade, which may be anticipated in the near future, and the immediate revenue which will accrue to the docks in consequence of the establishment of the undertaking referred to, the committee recommend the council to approve of the arrangements provisionally made on their behalf, and to authorise them to affix the city seal to all documents requisite for carrying the same into effect.

The committee also recommend that they be authorised to incur the expenditure, not exceeding £25,000, as already indicated, and to apply to the Board of Trade for their sanction to the borrowing of the above sum out of the moneys authorised in the 1911 Act to be raised for the general purposes of the docks undertaking.

The docks committee further report that they have assessed the dock dues on goods which have not previously been specifically rated. They come under the head of petroleum, and it is proposed that the inward dues for crude oil, fuel oil, and road oil shall be 6d. per ton, both in regard to all articles of foreign growth or importation direct from foreign or brought coastwise; and all articles of British origin or manufacture brought coastwise; and the outward dues, 6d. per ton foreign, and 3d. per ton coastwise. Pitch or asphalt is included, and the inward due is to be 4d. per ton for both classes, and the outward due 4d. for foreign and 3d. coastwise.

Developments in the Oilfields : Latest Progress Reports of English Companies.

Roumanian Consolidated Oilfields, Ltd.—Production for week ended 6th instant, 1,741 tons.

Traian Roumanian Petroleum Company, Ltd.—Production of crude oil for week ended 6th instant, 393 tons.

Maikop Premier.—Progress report by telegram dated Apsheronkaya, September 8th : (New) Well No. 5,400 ft. (increase 65 ft.)

Tulsa Oil Company, Ltd.—August output, 6,027 barrels, value \$6,207, against \$4,732 last year. Price of oil, \$1.03.

Maikop Midland.—Well No. 1, fishing for casing. Well No. 4, baling, oil rises periodically. Well No. 5, depth 1,490 ft.; water shut off.

Kansas-Oklahoma Oil and Refinery, Ltd.—Run of oil through the pipeline to the refinery for 14 days ended August 31st, 28,000 barrels.

Hungarian (Zemplen) Oil Company, Ltd.—The manager cables : Struck oil high percentage petrol, also strong gas. Stopped drilling, began cleaning well down to oil-bearing sandstone stratum.

Anglo-Maikop Corporation, Ltd.—Telegram, dated 7th instant, from manager at Krimskaya : "Well No. 1, depth 1,090 ft. Well No. 2 commenced drilling to-day. Well No. 3, depth 95 ft."

Constantine Oilfields, Ltd.—In a letter dated September 1st, from St. Arnaud, Mr. Paynter writes as follows : "We have discovered a rich outcrop of bituminous rock on the Sidi Messaoud licence."

Levanovskoe Petroleum.—Production of crude oil for week ended 6th instant, 3,600 poods. Well No. 2, depth 1,880 ft.; indications of oil. Well No. 3, depth 960 ft.

Premier Oil and Pipeline Company, Ltd.—A cable received September 8th, gives corrected production for August, namely, 18,950 tons, and not 18,700 tons, as previously stated.

British Burma Petroleum Company, Ltd.—A cable has been received from Burma reporting that the total production of crude oil by this company and the Rangoon Oil Company, Ltd., amounted to 73,806 barrels for August.

Kern River Oilfields of California, Ltd.—The management committee of the subsidiary company (St. Helen's Petroleum Company, Ltd.) report by cable as follows : "Santa Maria—Well No. 1, depth, 2,457 ft.; increase 7 ft. The 8-in. casing has been cemented. Midway—Well No. 1, producing 30 barrels per day. Will clean out and perforate." (Office note : "The well was originally drilled to 2,712 ft., but heavy gas pressure caused great trouble, and finally, the well sanded up to 2,277 ft. The depth reported on the 3rd inst. was 2,450 ft., and the well is being cleaned with the object of increasing the production.") Midway—Well No. 2 continuing to produce 150 barrels per day. Fullerton—Well No. 1 continuing to produce 120 barrels per day. Well No. 2, depth, 2,410 ft.; increase, 380 ft.; blue shale. McLeod lease—Well No. 1, depth, 2,150 ft.; increase, 200 ft.

THE ROUMANIAN PETROLEUM INDUSTRY.

IN view of the great importance the Roumanian petroleum production has recently begun to exercise on the international petroleum market, says *Le Petrole*, all authentic information acquires considerable value, and therefore abstracts from the report of the Belgian Legation on the development of the Roumanian petroleum industry will be of interest.

The petroleum industry, together with agriculture, forms the principal factor of the national wealth in Roumania, as its influence on the economical life of the country is in no way inferior to that exercised by the main industry—agriculture. Petroleum is indeed the only source of energy which the country disposes of for the development of its industry as well as for the means of transport of its agricultural products. That is why the railways, for instance, have consumed during 1910–1911 156,320 tons of liquid fuel, forming 62.12 per cent. of the total fuel consumed. Moreover, petroleum forms a very important item of Roumanian exports, and at present finds an ever-ready market in Europe, where it is exported by way of Constanza and other maritime ports and on the Danube. As regards the country itself, the petroleum deposits are a most fortunate occurrence, as Roumania does not possess other sources of energy such as waterfalls or coal.

It was in 1832 that traces of petroleum were first found in Roumania. The product was then raised by means of hand-dug wells, and the product of exploitation was mainly used for lubricating the wheels of vans and carriages. The first reliable figures as to the production refer to 1857, and the first exports were made in 1866. Two years later the American competition destroyed the Roumanian production, which, only after 1882 commenced to expand. But the really large movement of production and exportation dates only from 1898. A rapid development took place from 1900 to 1906, during which time the production increased by 355 per cent., attaining in the latter year the figure of 887,554 tons, and 451 wells and 591 hand-dug wells were then in exploitation.

In 1900 the financial position of Roumania was quite critical, the budget showing a deficit of 75,000,000 francs, on a total of 236,000,000, or 31 per cent. The financial crisis brought the Government to the inauguration of a sound policy of safeguarding and protecting the petroleum industry and securing for it every possible means for a sound development. Great activity was devoted to facilitating the transport of petroleum and its products on the Roumanian railways. Sea and river tracks were opened by the creation of the sea-port of Constanza, with its large petroleum installations, and the river ports on the Danube—Braila, Cernovoda and Giurgiu. But the Roumanian Government has gone further, for it is at present engaged upon the erection of the great Baicoi-Constanza pipeline, which will do away with the great difficulties which hitherto have interrupted the transport by rail of the crude oil and its products. This will directly contribute to the great and rapid development of the extensive virgin petroleum fields until now untouched, owing to the absence of ways of transport in the various districts.

The results of the new policy of the Roumanian Government have not been long in being felt, for the petroleum production rose from 250,000 tons in 1900 to 1,545,000 tons in 1911, 1,804,000 tons in 1912, and will probably attain the figure of 2,000,000 tons at the end of the present year.

The Roumanian petroleum-producing concerns are of three different types—companies, syndicates, and private enterprises. The largest production belongs to the companies. Thus, during 1912, out of 1,804,000 tons, the companies obtained 1,707,316 tons, or 95 per cent. of the total, while but 5 per cent. were obtained by syndicates and private concerns.

The capital actually invested in the Roumanian petroleum industry by various companies exceeds 400,000,000 francs, or £16,000,000, besides the value of private concerns and of the Government installations.

The nature of the Roumanian crude oil makes it of exceedingly great value, especially for exportation, as it contains a large percentage of benzine (light, 12 per cent., and heavy, 10 per cent.) and a splendid quality of residuals or liquid fuel (40 per cent.).

The exportation of Roumanian products has attained in 1912 a figure of 846,000 tons, and would have been still higher but for the disturbances in the Balkans. The 846,000 tons included 24,400 tons of crude oil, 283,500 tons of residuals, 7,300 tons of lubricating oils, 353,500 tons of kerosene, 173,000 tons of benzine, and 600 tons of paraffin. Among the countries to which Roumanian petroleum products are exported, England takes the first place with 214,195 tons for last year, of which over 50 per cent. were fuel and the rest kerosene and a small quantity of benzine. The second place belongs to France with 163,679 tons, of which 46 per cent. were benzine, 30 per cent. kerosene, and 24 per cent. residuals. The third country in importance is Egypt, with 142,418 tons (70 per cent. kerosene and 30 per cent. residuals). Austria, with 86,013 tons (of which 60 per cent. are residuals), and Germany, with 84,041 tons (70 per cent. benzine and the rest almost entirely residuals) occupy the fourth and fifth places. Then follow Turkey (53,549 tons), Holland and Italy, 26,000 tons each, Belgium and Norway (11,000 tons each), Bulgaria (10,358 tons), etc.

Prices of crude oil and products have recently considerably increased and make the industry more and more profitable. The prices of crude oil on the spot were from 670 to 690 francs a waggon, or double of what they were a year previously. The prices of products have increased by 20, 30, and some even by 120 per cent. The manufacture of gas-oil, motor-spirit, and residuals, has become most profitable as they are in great demand abroad in view of their excellent qualities. On the other hand, the increase in the prices of petroleum and its products hinders the development of other industries in the country, which, at present, are almost exclusively based on the consumption of petroleum, and there is now a continuous outcry among the small industries who demand from the Government the elaboration of certain measures to safeguard the interests of the trade and industry generally.

NATURAL GAS IN HUNGARY.

In a recent issue of the *Review Kosmos* an article was published regarding the development of the natural gas industry in Hungary, which is of interest to our readers in view of the fact that an English syndicate is now endeavouring to acquire the right of exploiting the natural gas sources in Transylvania, being prepared to make considerable investments for this purpose.

On November 26th, 1908, a gas well was brought in near the village of Kis-Sarmas at a distance of sixty metres from the Bistritz-Marosludas Railway. The gases suddenly caught fire from a lamp on December 14th, and since that time the gases continued flowing powerfully. The output of the Kis-Sarmas gasser during the year 1909 was very large, amounting to 40,000 cubic metres per day on the average, thus being more important than any European gas well for the time being. Its production equalled that of the Matson (California) gas well; but was less than the Pittsburg wells (83,000 cubic metres) and the Hogebrunnen in Pennsylvania (70,750 cubic metres). Later on the production of the Kis-Sarmas gas well increased to 1,000,000 cubic metres in twenty-four hours.

Since that time several wells have been started near Kis-Sarmas, and every boring was successful. The flow of the gas in the Kis-Sarmas wells is continually increasing. The swiftness of the gas drift was figured by Engineer Hermann to be 193 metres. Another proof of the great tension of the gases secluded there in the earth is the fact that when, on June 27th, 1910, a gas well was shut off, the gas broke out fizzing from different places in the neighbouring street. The great success of "Kis-Sarmas" stimulated operators to undertake other borings. The State geologists indicated also the region of Baassen, where two wells were started during the spring of 1912. One of them was located on the "Salzwiese," in close vicinity of the village Baassen, where, from ancient times, gas bubbles pushed forth from the salt sources and from puddles. The second well was located at half an hour's distance from the "Salzwiese" above Baassen near the forest. The work was started during the summer of 1912 with the rig (well) on the "Salzwiese." When a depth of 100 metres was attained, one could judge on basis of the experience got at "Kis-Sarmas" that the gas-bearing formation will soon be reached. This happened indeed at a depth of 130 to 140 metres, when the well made temporary eruptions. The gas gushed forward with great violence and uproar, dragging water, mud and pieces of earth. The production of the lower Baassen gas well was from the beginning pretty important, being estimated at 10,000 cubic metres in twenty-four hours. After a short time it rose to the fivefold. The second well above Baassen became producing in November, 1912, and although, in the opinion of the geologists, the gas bed was only scratched, the output was 58,000 cubic metres at a depth of 147 metres. The favourable result of these two borings have led to the decision to start a third well, which is now being sunk.

The Government started some borings also near "Mediasch," where a well was brought in on August 25th,

1912, which produced 30,000 cubic metres of natural gas in twenty-four hours. A second well gave 80,000 cubic metres. These wells are located in the "Schenert" forest, and owing to their proximity to the city of "Mediasch," they may become of great importance. The mayor of that city has already taken steps with the Hungarian Government with a view to secure the right of using the gas produced from their territory. Another gas well, said to be very prolific, was brought in near "Maggar-Saros," a small Hungarian village north from Baassen. Up to the present there are 28 gas wells in Transylvania. The quality of the Hungarian natural gas is excellent as results from its rich constituents of Methan ($C.H_4$). While the natural gas of Baku contains 93 per cent. of Methan, that of Wels 95.5 per cent., the gas of Kansas 97 per cent. at most, the natural gas of Baassen contains 97.7 per cent. on the average. The "Kis-Sarmas" gas is still superior, its contents of Methan being 99 to 99 $\frac{1}{4}$ per cent.

Now that the existence of the natural gas was proved in various points of the Transylvanian basin, and that it was ascertained that the gas wells of Kis-Sarmas have been producing for years with undiminished strength, it may be admitted as an evidence that the supply of natural gas is considerable, and this supply is secured for many years.

Regarding the exploitation of the natural gas sources in Transylvania the following is reported:—

"The pipeline 'Kis-Sarmas-Torda' will be ready on August 15th, 1913; the cost of this line amounts to 200,000 kronen. A smaller pipeline between Magyar-saros and Bazda was laid by a private company. Near the latter locality there is a watering place with the same name, where all the streets, hotels and private lodgings are illuminated with natural gas. The English and American experts, as well as the representatives of the Hungarian Government, are still in the gas fields to study the situation and submit a detailed plan to the Government.

"As it has been established that the production of natural gas in Transylvania can be estimated at 3,000,000 to 4,000,000 cubic metres, representing 4,000 to 4,500 tons of coal, it is a question of laying a pipeline running as far as Budapest, passing near the manufacturing cities Klausenburg, Grosswardein, Szolnok, and other smaller places. To carry out this scheme a capital of 50,000,000 to 60,000,000 kronen will be necessary, which the syndicate is ready to invest."

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THE OILFIELDS OF BURMA.

Their History and Development.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

*Reprinted from
"Memoirs of the
Geological Survey
of India."
Volume XL, Part I.*

THE SINGU FIELD.

THE most valuable part of this anticline from an economic point of view is the Singu area, a result partly of its position and partly of its greater symmetry. Grimes records an outcrop of oil sand on the north side of Moksoma Kon and noticed a strong smell of petroleum gas. The most noticeable feature of this oilfield is the comparative constancy of the oil sands and comparative equality in yield from wells tapping the same level of these sands. Oil was first met with in October, 1901. The best known oil sand and the one which has so far been most extensively exploited is found in Block 59N at a depth which is usually between 1,400 and 1,450 ft. below the plateau level near the crest. In Block N it is found usually between 1,500 and 1,550 ft. in similarly situated wells. Oil in slight traces has been found at less depths but in insufficient quantities to be worked. In Block 58 the sand, which was petroliferous between 1,400 to 1,550 ft. in the north, is charged with gas under very high pressure, but an oil sand exists at about 1,800 to 1,900 ft. corresponding to one found in Blocks N and 59N at a similar depth. The presence of large quantities of gas is what would be expected at a point of maximum elevation of the crest and it is not surprising to find that the gas pressure in the Burma Oil Company's well No. 5 (Block 58), not far west of the superficial crest from a sand between 1,390 ft. and 1,445 ft. and another between 1,510 and 1,570 ft., was over 400 lbs. per square inch. In another well in the same block the pressure in a gas sand at 1,545 to 1,555 ft. was 425 lbs. per square inch, and a third well, also in this block, yielded great quantities of gas from 1,380 to 1,400 ft. The oil sands in the Singu field, especially the 1,800 to 1,900 ft. sand, have been up to the present not very extensively exploited, the field being rightly treated by the Burma Oil Company as a reserve source for their refineries. It is unlikely that the two oil sands referred to are the only ones, and the probabilities are that others lie below, in which case this valuable field has a long, steady life before it. Oil has been found at depths between the two oil sands mentioned, but it is impossible to say how far they are independent sands or have any lateral extent.

The surface boundary of the oilfield, as far as the 1,400 to 1,500 ft. sand is concerned, passes through the middle of Block L, the western border of Block 58N, across the south-west corner of Block 56N, and the north-east corner of Block 54N to meet the eastern boundary which approximately coincides with the anticlinal crest. The limit of the lower sand is as yet unproved but may stretch a little further west. A few bores were sunk in the south of Block 54N by the Rangoon Oil Company, but none of these struck oil; one well, however, obtained gas. Considerable quantities of water were met with which is usually a sign that the oil-bearing area has been overstepped. Drilling is now being carried on in the north-east corner of this

block, and an oil sand, producing a surprisingly good yield, has been found at a depth of 1,980 ft. corresponding probably to the first or 1,400 to 1,500 ft. sand.

It will be seen from the above that we have conditions here somewhat similar to those in the Yenangyaung field, viz., a rich oil area in Block 59N, depreciating slightly northwards as the fold pitches, and passing southwards into a rich gas field (Block 58N), the difference being that the gas in Singu occurs at the highest level to which the fold is raised, while at Yenangyaung it is found where there is a decided pitch southwards, and that oil has been found south of the Singu gas area in Block 54N. An oil sand is exposed on the north side of Moksoma Kon, but very little oil has so far been obtained from Block 58N; from a well in the extreme north-west corner was obtained an initial yield of about 80 barrels per twenty-four hours from a depth of 2,015 ft. This sand is identical with the 1,400 to 1,450 ft. sand near the crest and the position of the oil-pool boundary has been placed a little to the west of this well. According to this, this sand will contain no oil worth working when the depth is greater than 2,100 ft. Block 59N is the richest area, the best wells averaging 500 to 600 barrels per initial twenty-four hours. Block N is very little inferior, and one well at a distance of about a quarter mile from the exposed crest produced 800 barrels. No wells have been drilled east of the crest, but one or two situated practically on the superficial crest have struck small supplies. The hade of the crest-locus is small, but it is probable that drilling east of the crest will never be necessary, all the oil in the eastern limb draining into wells tapping the subterranean crests. West of the river four or five borings were put down, a little north of Lanywa, in Blocks E, D, and 15, but were unsuccessful although depths between 1,400 and 2,000 ft. were reached: one or two of them were too close to the crest.

The following is the production from the Singu field, according to the official returns:—

	Gallons.
1902	245,390
1903	5,617,371
1904	23,549,759
1905	37,452,055
1906	34,843,621
1907	43,543,566
1908	43,048,948
1909	37,169,061
	225,469,771

(To be continued.)

ANOTHER PRATT'S SPIRIT RECORD.

ON a 25-h.p. "Vauxhall," and Pratt's spirit, Mr. A. J. Hancock, at Brooklands, on the 30th ult., lowered the four to nine hours and the 300 to 700 miles records. In eight hours he covered 702 miles 28 yards. The previous best was 622 miles 523 yards. Stopping for nine minutes to fill up on Pratt's, he made the splendid average of 87.76 m.p.h. for the eight hours.

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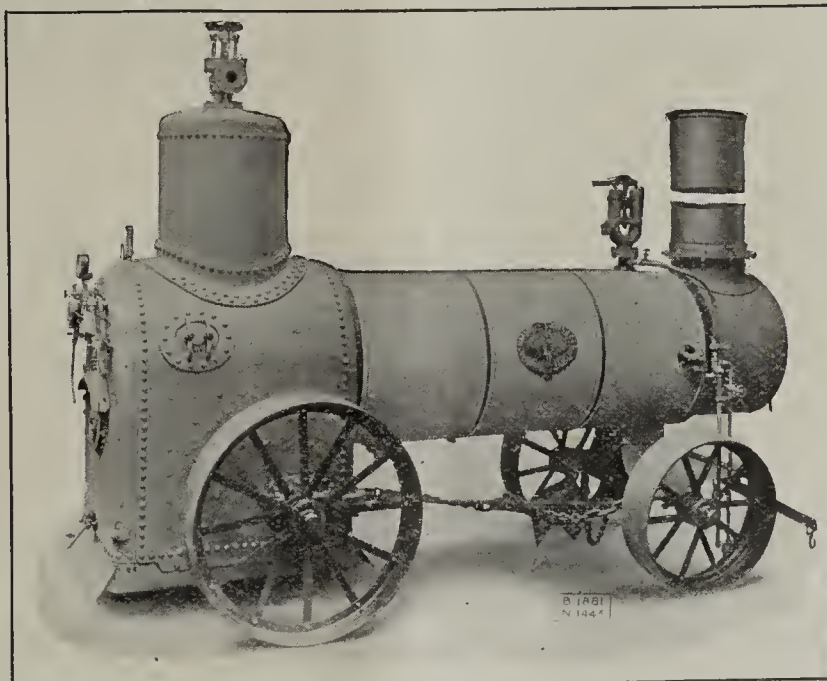
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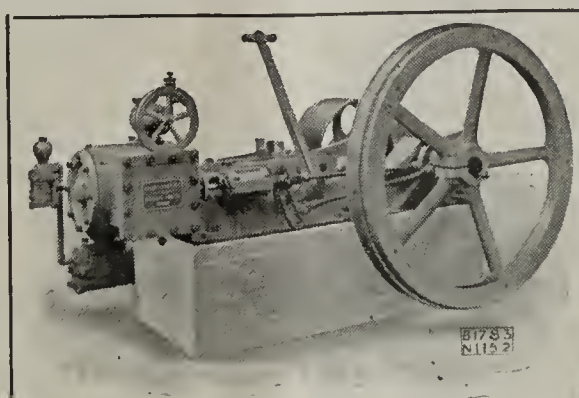
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LATEST QUOTATIONS OF PETROLEUM SHARES.

ENGLISH COMPANIES.

This list is restricted to companies who have paid dividends or who are producers.

Company.	Share Capital.	Value of Shares.	Latest Prices.
	£		
Anglo-Maikop Corporation...	650,000.	£1	$\frac{7}{16} - \frac{9}{16}$
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{29}{32} - \frac{31}{32}$
„ 5% Deb. Stock ...	600,000	£100	86-90
Assam Oil ...	310,000	£1	$\frac{8}{8} - \frac{9}{8}$
Baku Russian Petroleum Co.	750,000	10/-	5/0-5/6
Bibi-Eibat Oil Co. ...	312,500	10/-	5/9-6/9
Californian Oilfields...	500,000	£1	$6\frac{1}{4} - 6\frac{3}{8}$
European Oilfields ...	385,000	10/-	7/0-8/0
Lobitos Oilfields, Ltd. ...	400,000	£1	26/0-27/0
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{11}{16} - \frac{13}{16}$
Pacific Oilfields, Ltd. ...	250,000	£1	2/0-3/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	20/6-21/6
Russian Petroleum Co. ...		10/-	3/9-4/3
Schibaieff Petroleum, new Pref. (fully paid) s/s		—	$1\frac{3}{8} - 1\frac{1}{2}$
„ „ new Ord. 575,000 s/s		(fully paid)	13/6-14/6
Shell Transport and Trading	2,500,000	£1	$5\frac{11}{32} - 5\frac{13}{32}$
„ „ „ 1,200,000 Pref.		£10	$10\frac{7}{8} - 11\frac{1}{8}$
Spies Petroleum Co. ...	600,000	10/-	22/3-23/3

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	765	768
Caspian Society (Issue 1910) ...	1,000	3,450	3,475
A. I. Mantascheff & Co. ...	250	630	632
Nobel Bros....	5,000	19,175	19,250
Nobel Bros. (Issue 1912) ...	—	966	969
Russian Naphtha Society ...	100	287	289
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	276	278
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	386	$387\frac{1}{2}$

SCOTCH PRICES.

Supplied by Messrs. MACLEAN & HENDERSON, Stirling.

Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
British Australian Oil Co., Ltd. ...	300,000	£1	2/0
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	38/0
„ 6% Cum. Pref.	100,000	£10	$£11\frac{1}{8}$
Burmah Oil, Ord. ...	1,100,000	£1	75/3
„ Pref. ...	250,000	£1	25/6
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
„ 5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	$8\frac{1}{12}$
Mexican Eagle Oil, Ltd..			
Non. Cum. Pref. ...	\$8,500,000	\$10	46/6
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	36/3
„ Pref. (£1 paid) ...	100,000	£1	22/6
Premier Oil Ord. ...	2,300,000	£1	8/9
Pumpherstons Min. Oil Co., Ltd.			
Ord. (17/- paid) ...	110,500	17/-	$5\frac{15}{16}$
„ 6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	8/6
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	73/3
„ „ B Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).
Dordtsche Petroleum Industrie My., Ord. ...	Aand 187
„ Pref. ...	„ 187
Royal Dutch Petroleum Co. ...	„ 638
Moeara Enim Petroleum Maatschappij ...	„ 238
Perlak Petroleum Maatschappij ...	„ 51
Sumatra Palembang Petroleum Maatschappij	„ 238
Zuid Perlak Petroleum Maatschappij, Pref.	„ 53
Tarakan Petroleum Maatschappij ...	„ 101

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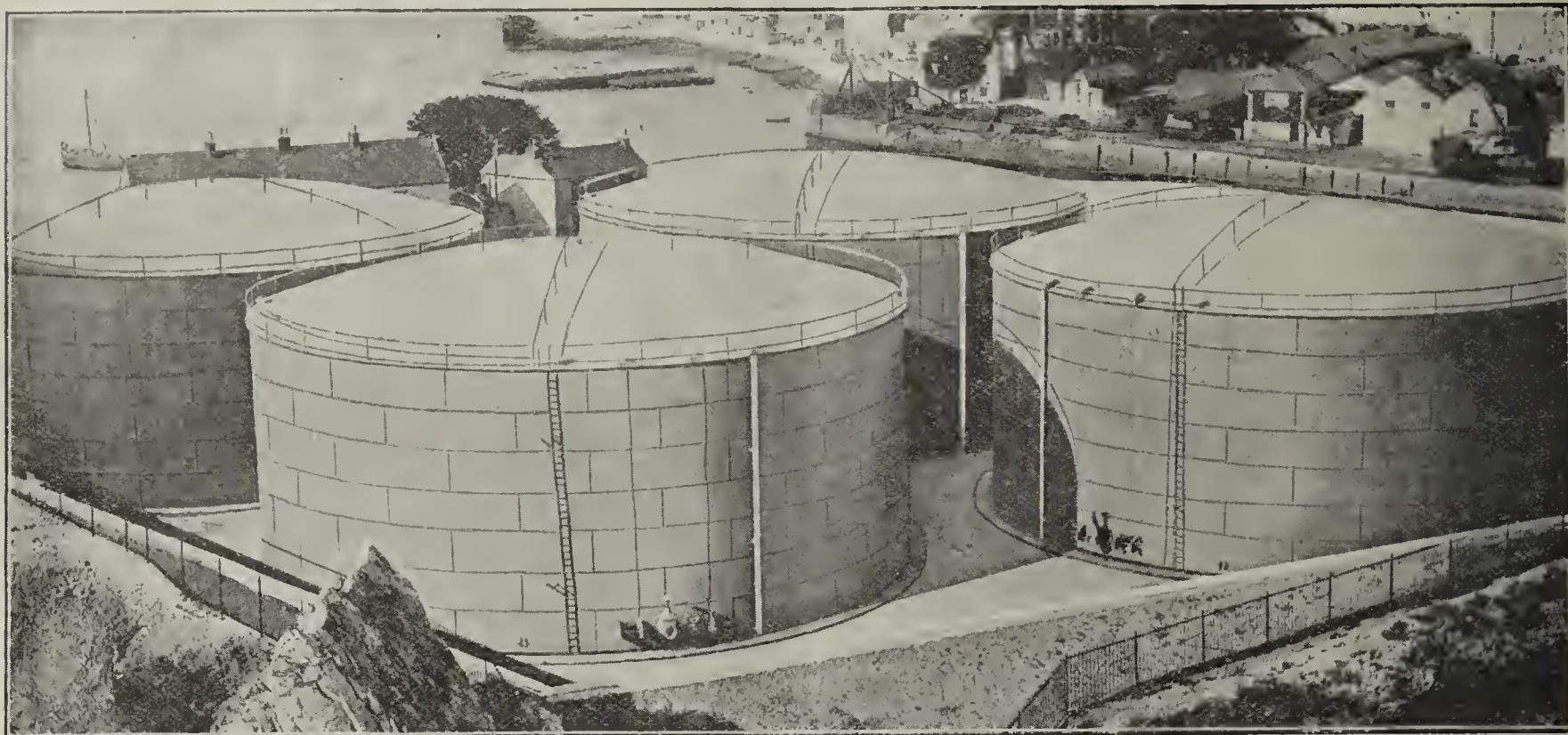
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CHIEF CONTENTS.

	PAGE
Editorial Notes	275
Augmenting the World's Oil-carrying Fleet	285
Classified Imports into the United Kingdom	286
Notes from the Oilfields	287
American Petroleum Exports	288
Developments in Egyptian Oilfields	288
Oil Refineries in State of Kansas	289
Maikop New Producers, Ltd.	291

— THE — PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.
American Office: 111, Broadway, New York.

SATURDAY, SEPTEMBER 13TH, 1913.

AUGMENTING THE WORLD'S OIL- CARRYING FLEET.

NO more striking evidence could be furnished of
the continuous expansion in the international
trade in petroleum products than the activity which is
to-day noticeable in our great shipbuilding yards in the
construction of new oil tankers to meet the rapidly
growing importance of the petroleum trade.

So far during the present year, some twenty-five new
vessels have been launched, yet as these leave the
stocks, other new tankers take their place, the result
being one long run of activity in tank-steamer con-
struction. It is estimated that between now and the
end of the present year almost twenty new tankers
will have left their building stocks, though it is evident
the science of the shipbuilder will be required for the
next one or two years in oil-tanker construction before

the orders now placed, or about to be given for new vessels, will be executed. Such is the state of the market for increased ocean oil transport facilities.

Nor are all these new vessels required for any one particular branch of the oil-carrying trade: the new vessels will trade in practically the whole of the seas of the world with their liquid oil cargoes, and on behalf of varying interests, for monopoly in oil transport, in view of the enormous amount of finance involved, cannot but ever be an unrealisable dream.

As the larger and more powerful oil companies are increasing the strength of their oil-carrying fleets, so, too, are the smaller oil-transport interests taking every advantage of the present unique opportunities for expansion. The result is that at the moment a gigantic new oil-carrying fleet is in progress of construction at the shipbuilding yards of this country.

As our readers are aware, the most important order placed with shipbuilders for the construction of new oil tankers is that of the Mexican Eagle Company, whose order totals twenty tank steamers, several of which—the largest in the world—are already in active service.

If space permitted we could detail the numerous orders now in course of execution for the building of new oil tankers: let it suffice if we mention but a few of the more important. There is, for instance, the order of the Tank Storage and Carriage Company for the building of a 7,000-ton tanker designed to carry all classes of oils, this boat, like many others, being on the now well-known Isherwood system. Messrs. Bowring & Company are, to some extent, monopolising the yards of Messrs. Swan, Hunter & Wigham Richardson with their new fleet of oil tankers, the largest of which will have a carrying capacity of nearly 10,000 tons. A moderate sized tanker is also being built for Messrs. Gow, Harrison & Co., of Glasgow, while the Caspian Oil Company are having new boats built on the Tyne. The German-American Petroleum Company, of Hamburg, are also considerably increasing their ocean fleet. The Greenock and Grangemouth Dockyard Company are now busily engaged in this work, one of the boats on the stocks being designed for the conveyance of petroleum in bulk on the Canadian lakes. At Grangemouth also, a tank steamer is being constructed, which although of small dimensions has an importance of her own, inasmuch as she is being built to the order of the Argentine Government to convey oil to the Argentine Fleet.

The use of the motor-propelled vessels for the purpose of ocean transport of petroleum products is gradually coming into popularity, it being evident that our English shipbuilding firms have taken the warning of Sir Marcus Samuel seriously to heart. The new motive power is already being installed in several of the new oil-tank carriers, and in this direction it is interesting to mention the fact that one French firm of ship-owners are equipping a large sailing ship with auxiliary motors, the vessel to be employed in the carrying of bulk oil across the North Atlantic.

Added to this, the Admiralty have a number of contracts given out to English shipbuilders for the construction of vessels to carry bulk oil for Admiralty needs, while we understand that several foreign Governments are ready to place orders for ocean-going craft for similar purposes.

There is no doubt that the healthy feeling which to-day permeates the petroleum industry is reflected in no branch more than in that of the building of oil-tankers.

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Registered on September 4th by H. P. Becher, 26, Bedford Row, W.C. Capital, £40,000 in £1 shares. Objects: To explore, collect and prepare for market oil and other contents of the soil, and to develop any oil wells, etc. Private company. Signatories: H. G. Clark, Clovelly, 53, Oaklands Road, Hanwell, W., and Edmund W. Church, 35, Durlston Road, Upper Clapton, N.E. First directors (who are to number not less than two or more than seven) are to be appointed by signatories. Qualification: 1 share. Remuneration: £100 per annum (chairman, £150). Registered office: 3, St. James' Street, S.W.

MEXICAN PRODUCE COMPANY, LTD.

Registered on September 4th, by P. J. Goodchild, 62, London Wall, E.C. Capital £21,000, in £1 shares. Objects: To buy and prepare for market and deal in oil, and oil-producing nuts, and to win, manufacture and to act as merchants of, and dealers in nuts and oleaginous substances from which oil can be obtained. Minimum cash subscription, £7. First directors (who are to number not less than two or more than five) are: E. Levett Scrivener, Sibton Abbey, Yoxford, Suffolk, and P. E. Nutter, 78, Cornhill, E.C. Qualification: £200. Remuneration: £2. 2s. for each meeting attended. Registered office: 62, London Wall, E.C.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO SEPTEMBER 8th, 1913.

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COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Sept. 1.	From Jan. 1.	Since Sept. 1.	From Jan. 1.	Since Sept. 1.	From Jan. 1.	Since Sept. 1.	From Jan. 1.	Since Sept. 1.	From Jan. 1.	Since Sept. 1.	From Jan. 1.	Since Sept. 1.	From Jan. 1.	Since Sept. 1.	From Jan. 1.
Belgium ..	—	—	22,420	498,313	—	—	—	—	16,920	20,820	—	120	—	4,400	39,340	534,653
Canada ..	—	—	—	7,040	4,000	33,250	—	—	—	—	—	—	—	—	4,000	40,290
Dutch Indies ..	—	—	—	—	—	—	—	—	3,604,000	28,261,450	—	322,740	—	—	3,604,000	28,584,190
Germany ..	2,180	134,280	37,420	2,269,150	—	600	—	107,120	—	—	—	400	—	4,610	39,600	2,516,160
Holland ..	—	—	—	8,020	—	—	—	—	377,000	5,379,340	—	—	—	590	377,000	5,387,950
Mexico ..	—	4,001,740	—	—	—	—	—	450,800	—	1,123,800	—	11,213,600	—	—	—	16,789,940
Roumania ..	2,570	12,856,037	—	—	—	—	—	1,150,000	511,500	2,981,830	—	9,029,060	—	—	514,070	26,016,927
Russia ..	1,413,950	9,851,130	—	10,460,510	—	389,370	—	—	—	11,124,350	—	—	—	—	1,413,950	31,825,360
U.S.A. ..	8,780	71,198,236	648,790	32,755,354	2,720	160,060	—	41,849,820	—	15,250,800	—	2,389,730	24,600	712,565	634,890	164,316,565
Other Countries	—	80	8,040	110,910	—	480	—	—	—	4,859,240	—	620	—	1,460	8,040	4,972,790
	1,427,480	98,041,503	716,670	46,109,297	6,720	583,760	—	43,557,740	4,509,420	69,001,630	—	22,956,270	24,600	723,625	6,684,890	280,984,825

NOTES FROM THE OILFIELDS.

RUSSIAN.

Oil Free of Duty.—Up to the end of next December petroleum may be imported by anyone into Russia free of duty.

Exploitation of Petroleum by the State.—A Government committee has been appointed to study the question of organising petroleum production on the State petroliferous lands by the State itself.

Astrakhan Petroleum Exports.—The total exports of petroleum and products from Astrakhan up the Volga during July amounted to 18,385,593 poods of crude oil and residuals and 8,978,362 poods of kerosene.

North Caucasian Petroleum Company.—The North Caucasian Petroleum Company has addressed the Ministry of Trade and Industry with a demand authorising it to increase its capital from £375,000 to that of £750,000.

Railways and Fuel.—In view of the deficiency in liquid fuel the consumption by the railways of coal is bound to considerably increase. The consumption of coal during the second half of the year is estimated to amount to 190,000,000 poods, 10,000,000 poods or 5 per cent. more than during the first half of the year.

Influence of the Strike on Prices of Oil.—The Council of the Siezd of Trade and Industry has held a special enquiry into the influence exercised by the recent Baku strike on the price of petroleum. According to the committee the deficiency in the production caused by the strike will amount to 5,000,000 to 6,000,000 poods, but will scarcely have any effect on prices.

AMERICAN.

Californian July Production.—Although the actual figures of production are not yet available, it is believed the total output of crude oil in the State for July amounted to 8,500,000 barrels, which is easily a record.

Oil for Fuel.—It is reported that the total amount of oil consumed as fuel in California, including that used in the manufacture of gas, is about 50,000,000 barrels per annum, or equivalent to about double the coal consumption of the State.

Venezuela Developments.—Serious development work is about to start in the Venezuela fields, where Canadian drillers in charge of a Canadian outfit are to drill for oil. The scene of development is on the mainland opposite the Island of Trinidad.

A New Texas Field.—Writing from Beaumont, Texas, a correspondent states that the Rio Bravo Oil Company has brought in a well ten miles east of Beaumont and fifteen east of Spindle Top, with a capacity of 2,000 barrels daily. This well opens up a new field near the Gulf Coast.

The Imperial Oil Company's New Refinery.—The Imperial Oil Company, which is the Canadian branch of the Standard, is proceeding with the building of its new refinery at Sarnia. The plant of the old refinery is being dismantled. It is expected by the middle of next year that the new refinery will be in full operation.

Developments in Colombia.—After being suspended for some time, the work of boring for petroleum near Puerto Colombia is to be resumed at once. Roads are being made for transporting the new machinery, and it is expected that boring operations will commence at four or five points, near the coast of the Caribbean Sea, simultaneously.

The New Argentine Field.—Argentina has appropriated about \$7,500,000 to develop the new oilfields recently discovered in Patagonia. The largest field in this South American Republic is near Comodoro Rivadavia, about 1,200 miles from Buenos Aires. Twelve wells have already been drilled and eight more are in process of drilling. The oil is found at a depth of 2,000 ft., the best producing well yet drilled having an initial flow of 8,000 barrels daily.

The Standard Company's Gusher.—The Standard Oil Company's well No. 10, in the Sunset-Midway fields, which has been flowing for the past few weeks, is still making 12,000 barrels of oil daily. The well is quite under control. It is interesting to note that the output of this well almost equals the total daily production of the California Oilfields, Limited, which oil the Standard has recently been purchasing. In the La Habra Valley the Standard Company has a production of 5,000 barrels daily from three wells.

ROUMANIAN.

General Production.—The general production maintains at the level of 5,000 tons a day. Great activity re-begins and boring work is pushed on with vigour.

Prices.—The price of crude oil remains unchanged. The demobilisation continues, and soon the course of the petroleum industry in the country will become normal.

The Romano-Americana.—The production of this company now averages 700 tons a day, of which 650 tons are obtained at Moreni and the remainder on the other fields.

The Steaua-Romana.—The daily production of this company during last week amounted to 1,050 tons, in the average of which 511 tons were obtained at Campina and 192 tons at Policiori.

Dambovitza-Romana.—Under this name a new French company has been formed at Paris, with a capital of 2,000,000 francs, for the purpose of petroleum exploitations at Glodeni and Gura-Ocnitzei, acquired from Elie Tudor, at Tirgovishte.

Astra-Romana.—The production of this company during July amounted to 36,578 tons, of which 28,577 tons were obtained at Stavropoleos, 5,266 tons at Bana, 1,846 tons at Campina, 750 tons at Baicoi, 122 tons at Filipeshti, and 17 tons at Glodeni.

The "Colombia" Well.—The well Colombia, which has during two days interrupted its production owing to a sand inundation, has now recommenced its yield of 550 tons a day. Prior to September the well produced a total of 362,500 tons.

Exportation.—The exportation during July has undergone a considerable reduction, but owing to the larger number of trains put at the disposal of the petroleum firms, the exportation is now becoming normal and the deficit in the exports will be wiped out during the next few months.

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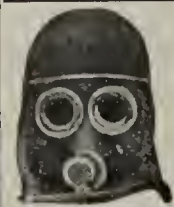
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AMERICAN PETROLEUM EXPORTS.

Statistics for July.

THE exports of American Petroleum products during July and their respective values are given in the following table :—

	Gallons.	Values.
CRUDE OIL—		
New York	7,687,047	\$637,099
New Orleans... ..	1,046,482	72,966
Arizona	840,100	31,930
Southern California	4,116,000	73,500
Washington	6,203,145	126,998
Dakota	8,185	410
Michigan	1,073,923	35,889
Ohio	3,332,109	131,248

Totals	24,306,991	\$1,110,040
Totals for July, 1912	18,473,221	682,081

RESIDUUM, GAS, OIL AND LIQUID FUEL, ETC.—

New York	66,187	\$5,478
Philadelphia... ..	2,020,620	73,880
New Orleans... ..	3,233	100
Sabine	9,178,757	312,925
San Francisco	15,317,052	263,023
Southern California	27,611	493
Washington	187,289	11,686
Buffalo	176,000	5,584
Dakota	119,102	3,737
Michigan	629,283	22,067
Ohio	4,489,392	192,693

Totals	32,214,586	\$891,666
Totals for July, 1912	32,035,724	793,361

ILLUMINATING—

New York	38,418,088	\$3,009,942
Philadelphia... ..	16,177,328	934,526
New Orleans... ..	11,113,224	546,645
Sabine	11,838,592	873,725
Arizona	4,302	1,150
San Francisco	12,926,795	587,656
Southern California	200	38
Washington	18,306	2,140
Buffalo	11,273	3,382
Dakota	158,581	7,831
Michigan	16,985	875

Totals	90,683,674	\$5,967,910
Totals for July, 1912	97,576,217	6,032,939

LUBRICATING AND PARAFFIN—

Maryland	753,408	\$107,240
New York	9,450,263	1,419,704
Philadelphia... ..	2,665,353	343,934
New Orleans... ..	408,290	105,205
Arizona	751	475
San Francisco	57,849	12,223
Southern California	575	180
Washington	22,876	8,258
Buffalo	1,478,992	180,488
Dakota	103,978	14,529
Michigan	222,152	23,666
Ohio	36,738	7,981

Totals	14,055,762	\$2,078,929
Totals for July, 1912	16,604,618	2,292,395

NAPHTHAS, GASOLINE, ETC.—

Maryland	4,234	\$702
New York	6,720,330	1,132,088
Philadelphia... ..	3,495,500	525,105
New Orleans... ..	340,526	46,620
Sabine	300,000	41,850
Arizona	2,060	510
San Francisco	11,948	1,828
Southern California	2,111	366
Washington	946,196	149,702
Buffalo	826,039	115,380
Dakota	826,039	115,380
Michigan	169,025	24,149
Ohio	1,013,948	148,605

Totals	15,310,909	\$2,367,393
Totals for July, 1912	16,607,656	1,830,401

DEVELOPMENTS IN EGYPTIAN OILFIELDS.

Consular Report.

MR. PRO-CONSUL LOCKWOOD has recently issued from Suez a report in which lengthy reference is made to the development of the Egyptian Oilfields. The writer points out that during 1912 much exploratory work has been done in connection with the Egyptian oilfields. At Gemsah, which is being worked by the Anglo-Egyptian Oilfields, there are fourteen wells, some of which are yielding oil of good quality, and in fairly large quantities. Storage tanks of large capacity have been erected. Every precaution is now being taken to exclude water, which has been a constant source of trouble in this area.

Exploratory work is in progress by the same company on the west side of Gebel Zeit. Preparations are being made for commencing operations at Jaffatine Islands. The African Prospecting Syndicate has carried on work at Ras Bahar, to the north of Gemsah, and on Gaysoon Island. Work has been recommenced at Ras Dhib, and is proceeding favourably. The Eastern Petroleum Company has sunk five wells on Jubal Island, in each one of which indications of oil have been met with. Preparations are now being made for commencing operations on Little Jubal, off the north end of Jubal, near to which evidences of oil occur in the sea. The Suez Oil Company is operating on Ranim Island, on the western side of the Sinai peninsula. At Abn Zenima, which is being worked by the Cairo Syndicate, indications of oil have been met with.

At the refinery, which is now completed, a continuous bench, consisting of fourteen stills, has been erected, with accompanying dephlegmators and condensers, also a bench of six steam stills. It is expected that these stills will deal with 500 to 700 tons of crude oil per day.

There is a battery of six 30-ton boilers, which will burn liquid fuel. The engine room contains dynamos, air compressors and powerful fire pumps.

The leading pump house contains two powerful pumps, which will pump the crude oil and the products from and to the docks by means of four pipelines, each about four miles long. The central pump house contains twenty pumps, to be used for internal pumping in the refinery.

Sixteen storage tanks for crude oil and products, each of 4,000 tons capacity, are to be built, eight of these having already been erected. There is also a tank of 5,000 tons for storage of water. There are further thirty tanks of various sizes for use in the refinery.

Commodious offices and laboratory have been erected, and a workshop with up-to-date machinery.

Quarters for European employees and also native quarters are in course of erection.

The Egyptian State Railway have connected up the refinery with their main line to Ismailia, so products will be forwarded to all parts of Egypt direct from refinery.

SITUATION WANTED.

PETROLEUM SPECIALIST. Engineer Chemist, 42 years old, has had 20 years' experience in petroleum refinery management, at present director of the largest refinery in Austria, able to undertake the erection, putting into work, management or reconstruction of large mineral oil refinery. Will accept position in Russia (knowledge of language), Roumania or America. Guarantees economy in management. First-class references.—Reply "K.Z.," PETROLEUM REVIEW, 45, St. Mary Axe, London, E.C.

OIL REFINERIES IN STATE OF KANSAS.

By Mr. A. F. ROBERTSON.

*Reprinted
from the
"Oil and Gas
Journal."*

THERE are eighteen refineries in Kansas in operation. Less than six years ago there were twenty-six. The decline in number is due to the decline in production in the Kansas field and increased cost of operation due to freight rates and the necessity for purchasing crude in Oklahoma. The production in Kansas at this time is less than one-third of what it was six years and a-half ago, and this makes it absolutely necessary for those engaged in the manufacture of products of crude to seek supplies in Oklahoma. The big plant could stand it, but the smaller ones were obliged to get out of a bad situation as best they could. Nearly all of them consolidated with some stronger concern and thus saved the investment. This was true of the plant at Longton, which amalgamated with the Kanotex Refining Company at Caney; of the Paola Refining Company, which is now embraced in the plant of the Petroleum Products Company at Independence; of the plant of the Uncle Sam Oil Company at Atchison, which consolidated with the Kansas City (Kansas) Refinery of the same company, and of the splitting plant of the Kansas and Texas Oil Company of North Chanute, which was consolidated with the mid-continent refinery at East St. Louis, Illinois, owned by the same interests. The refineries at Humboldt and Petrolia have been tied up in the courts for two years, and the litigation has but recently ended and both of these will shortly be again in the business of refining.

The refineries now in operation in Kansas are located at Neodesha, Chanute, Kansas City, Independence, Coffeyville, Caney, Cherryvale, Rollin, Erie, Niotaze and Moran. All of these are established and going concerns and have been in the business for some years.

The first refinery in Kansas was that of the Standard Oil Company of Kansas, constructed to take care of the production of the small pools at Thayer in Neosho county and Neodesha. The plant was constructed in 1889, and went into operation in 1890. In the last decade of the century a pool was discovered at Humboldt, in Allen county. And hither came C. D. Webster, who had been rather an itinerant promoter of refineries and selling agencies in the Eastern fields. Webster organized a company and installed a small refinery consuming 300 barrels of crude to begin with. This was the second refinery in the middle west. Then came the hurrah days at Chanute, and there were six plants, large and small, going up there and in the immediate neighbourhood. At Erie the Great Western was going along, and further south, H. H. Tucker, also a spectacular character in the oil excitement in Kansas, was building a plant at Cherryvale and another to the north at Atchison, and still another at Kansas City. For a time it appeared as though building refineries was the easiest way to secure money for anybody who desired to get in the oil game. Most of the companies sold stock all over the country for 10 to 20 cents a share, and carried big advertisements in all of the papers.

With the slump in prices, the decline in production and the opening of the big pools in Oklahoma, it was natural that the Kansas refining industry should suffer a set-back and adjust itself to the new conditions. This has been done, and to-day all of the plants in operation in the State are on a sound basis, if they are not declaring big dividends.

By virtue of its having two of the largest refineries in the State, Coffeyville is entitled to the credit of being the centre of the industry. Here are located the plants of the Cudahy Refining Company, the National Refining Company and the Kansas Western Oil Refining Company. The Cudahy refinery is said to be the most modern in the south-west, as it has been running less than two years. It covers a big acreage and manufactures all of the by-products of Kansas and Oklahoma crude, which can be refined at a profit. Gasoline, naphtha, kerosene (all grades), paraffin wax, lubricating oils, auto oils, are all made at this plant, which has an intake of 6,000 barrels daily with a maximum capacity of 10,000 barrels. This company obtains its crude supplies from the shallow pool in Oklahoma, owning its 6-inch pipeline for a distance of more than thirty miles. It disposes of its products through the Chicago office, where all the business of the company is transacted. It has never entered actively into the sale of oil in Kansas, though it has, through the Muskogee Refining Company, which it controls, opened several branch stations in Oklahoma. The plant is owned by the Cudahy packing interests of Chicago and is a very close corporation. At one time it owned the lease on the townsite of Bartlesville and drilled the first well east of the Osage line in the Indian Territory days.

The National Refining Company of Kansas is but a branch organisation of the National Refining Company of Cleveland, Ohio. Its plant at Coffeyville has an intake of 4,500 barrels daily with a maximum of 10,000 barrels. It receives its crude supply from Bartlesville, where it owns the entire townsite lease originally drilled by the Cudahys, through its own pipeline. It also has storage at Bartlesville. This plant manufactures naphtha, gasoline, burning oil (three grades), engine oil, gas oil, fuel oil, distillates, road oil, asphaltum, lubricating oils and wax. The company has stations in Kansas and Nebraska and handles 90 per cent. of its business by this method. It has only ten jobbers on its books. It owns 325 tank cars. J. L. Lamprecht, of Cleveland, Ohio, is the president and F. B. Fretter, also of Cleveland, is secretary and treasurer of the Kansas company. Both men fill the same offices for the Cleveland company.

The refinery of the Kansas Western is a small one and was originally installed at Chanute, but when the decline in crude production came it was moved to Coffeyville in order to be near the source of supply. It manufactures only the lighter grades and fuel. It gets its crude supply entirely from the Delaware pool

south of Coffeyville, and markets its entire output through jobbers. It has a maximum capacity of 900 barrels and intake of 750 barrels. The plant is owned by Wichita (Kansas) people, and J. L. Elliott is the president.

The Standard Oil Company's refinery at Neodesha is the largest in the State. It has kept pace with the development of production in Kansas and Oklahoma. From this plant is distributed through sales stations of its own establishment and control and through waggon service, the oil which is used by all of its customers in Kansas. It has stations in all of the towns and cities and covers the State like a blanket. The intake at present cannot be ascertained, but it is asserted by other refiners to be 15,000 barrels a day. It refines and sells all of the by-products of Kansas and Oklahoma crude. Gasoline, naphtha, kerosene of all grades, engine oils, lubricating oils, fuel oils, road oils, auto oils, valve oils and wax for all the territory in Kansas are shipped from here. Improvements are being made which will bring the maximum capacity of the plant up to 20,000 barrels a day. The Neodesha refinery is owned and operated by the Standard Oil Company of Kansas and buys its crude in Kansas and Oklahoma.

At Independence is located the refinery of the Petroleum Products Company. This company was originally organised for the purpose of making asphalt products, but gradually extended its scope of operations until it is now manufacturing nearly all of the by-products of Kansas and Oklahoma petroleum. It refines and sells gasoline, naphtha, all grades of kerosene, engine oils, lubricating oils, gas oils, fuel oils, asphalt and wax. It has no stations and sells through brokers and jobbers entirely. It has 207 tank cars. The Petroleum Products Company has a 3-in. line from Independence to the shallow pool in Oklahoma and a 3-in. line to Wayside, a producing district south of Independence, having, all told, a pipeline mileage of 80 miles. It is a stock company, with a capital of \$1,500,000. E. G. Leozynsky, of Chicago, is president and G. C. K. Cullmer is general manager. Its daily intake is 3,000 barrels, with still capacity of 5,000 barrels.

The Chanute Refining Company, located at Chanute, has an intake of 2,000 barrels with a maximum capacity of 3,000 barrels. It manufactures gasoline, all grades of kerosene, gas oil and fuel oil, but has no grease or wax plants. The company is interested in some production close to Chanute, but buys the greater portion of its supply at Cushing (Oklahoma). It has two stations and sells more than 90 per cent. of its output through jobbers. The company is owned by Kansas City and Chanute capital. C. A. Braley, of Kansas City, has been the president since its organisation. L. L. Marcell, of Chanute, is secretary and treasurer.

The Miller Refining Company, at Humboldt, just nine miles north of Chanute, has but recently taken over the old plant of the Webster Refining Company, which has been in litigation for four years and operated meanwhile by receivers. The plant is shut down for repairs and improvements. This is a close corporation, nearly all of the stock being owned by J. H. Miller & Son, of Chanute. They expect to get 20 per cent. of their crude at Humboldt, or immediately around there, and the rest in Oklahoma. They are not at this time prepared to make an announcement as to just what the scope of their operations will be.

South of Chanute, at Austin, is the refinery of the Kansas Co-operative Refining Company. This company refines gasoline, naphtha, two grades of kerosene, engine oils and fuel oils. It buys its crude in Oklahoma. It has three stations, but sells the bulk of its trade through jobbers. It has no pipeline. The intake is 500 barrels daily and the maximum capacity 1,500 barrels. This is a stock company, with F. A. Parsons, of Chanute, as president and general manager. Its general offices are at Chanute. The capital stock is \$100,000.

(To be concluded.)

Important New Organisation in Louisiana.—Under the presidency of Mr. J. S. Cullinan, an organisation known as the Pasadena Petroleum Company has been formed, with a capital of \$3,000,000, for the purpose of operating in North-western Louisiana, but more especially in the Caddo district.

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MAIKOP NEW PRODUCERS, LTD.

PROMISING PROSPECTS: A REPLY TO THE MAIKOP PESSIMISTS.

THE second ordinary general meeting of the Maikop New Producers, Limited, was held on Tuesday, at Winchester House, Old Broad Street, E.C., Mr. Cosmo Nevill Peake (chairman) presiding.

The Secretary (Mr. G. E. A. Browne) having read the notice convening the meeting and the report of the auditors,

The Chairman said: As you are aware, the company was registered in February, 1912, to lease and work the properties of the Maikop Oil and Petroleum Producers, Limited. These consisted of seventeen plots, of about twenty-seven acres each, in the Maikop oilfields of Southern Russia. The terms under which the company acquired these assets were the payment of the liabilities of the old company and 15 per cent. of the yearly net profits. The authorised capital of the company was originally £200,000 in shares of 10s. each, and these were offered, credited 8s. paid, to the shareholders of the old company at 1s. each. This 1s. per share just about covered the £20,000 liabilities of the old company, so that all the working capital at the disposal of this company was £40,000, i.e., the 2s. per share on 400,000 shares. This is not a large amount of working capital for an oil company, and it was not all available for development purposes, inasmuch as preliminary expenses and deposits with the Russian Government had to be provided for out of this amount. Although our company had acquired the property and assets of the Maikop Oil and Petroleum Producers, Limited, the latter continued to exist as a separate company, and, as I have before stated, was entitled to receive 15 per cent. of the profits each year. In December last we were approached with a view to acquiring the remainder of its interests, and, as you are aware, the old company was absorbed, the purchase price of £35,124 being satisfied by the allotment of 70,248 fully-paid shares of 10s. each. To carry out this arrangement and to give a margin of shares for future issue, the capital of the company was increased to £300,000, and our total issued capital, as shown by the balance-sheet, is now £235,124. The item for calls in arrear, £4,114. 4s. 6d., outstanding when the accounts were made up, has practically all since been paid. Sundry creditors in London and Russia represent debts incurred in the ordinary course of business to cover supplies of materials.

Turning to the other side of the accounts you will note property acquired from the Maikop Oil and Petroleum Producers (that is, the old company), stands at a valuation of £190,152. This is very low when we consider that the old company paid for its properties some £300,000, had a working capital of over £65,000, and, in addition, its trading liabilities at the time we took it over were, as stated, £20,000. I think, therefore, in the circumstances, the question of depreciation, to which the auditors call attention, may be dismissed. The capital expenditure—£21,280—represents the amounts spent to date in drilling wells, the erection of buildings, and the general capital outlay incident to an oil enterprise. As pointed out at the statutory meeting last year, there was very little useful boring machinery and plant on the plots when we took over the property, and the item—£17,218—under the heading of plant, machinery and moveable property represents our purchases to efficiently carry out operations. You will, of course, realise that these being new are a valuable asset. It is stated in the report that the stocks of crude amounted to £2,060; but they have since been disposed of at over this figure. Sundry debtors are chiefly in respect of crude sold, and this sum has since been collected in the ordinary course. Our property is, I think, fairly well equipped, and there is no doubt we shall be in a very satisfactory position indeed when our output increases. As a reserve for further developments we have unissued capital amounting to £65,000. I do not think the profit and loss account calls for any comment on my part, except that the general oilfields expenses may appear to you somewhat heavy. This is necessarily the case in a new field like Maikop, where conditions exist which are not met with on more developed fields, and in our case we had to face an abnormal expenditure on account of the water difficulty. At the extraordinary meeting of this company, held in December last, to approve of the absorption of the 'Old Producers' Company, you were informed of the condition of affairs when we took over the property, and therefore I will not go over the same ground again.

The greatest difficulty we have had to contend with has been the presence of water in the oil source on otvod 16, plot 490, brought about by the defective wells drilled by our predecessors. In the autumn of last year the production steadily improved, and, as stated at the meeting in December, we thought we had turned the corner. We had at that time earned a profit of £1,000 per month for four months. The actual figure for the four months ended November 13th, was £4,117. Unfortunately, we subsequently had a recurrence of the water difficulty. However, in spite of this, the production is again improving, and it is more than probable that we are gradually overcoming this trouble, although I must confess this is a point on which, in the circumstances, I do not wish to be too sanguine. While, as explained in the report, development operations have been chiefly concentrated on plot 490, in our exploratory well on otvod 14, plot 554, about 1½ mile to the north-east of plot 490, we have struck oil and measures are now being taken to shut off the water source before exploiting the oil, so as to avoid the danger of waterlogging the oil source. This discovery is of great importance, because, if successful, it means not only a new producing plot, but another of our plots—No. 534, which lies between 554 and 490—should also be productive, and thus treble our producing area. I may mention that neighbours of ours on the plot adjoining our plot 554, after shutting off the water source, have a flowing well. I do not wish to appear to be over-optimistic as to the ultimate results, but the evidence is certainly most encouraging. Now as to the portion of two plots (otvod iv./387 and otvod xii./532), leased to the Maikop Victory Company, I think you will agree with the policy of the board in making this arrangement, in view of the fact that we have no less than 3½ otvods of 94½ acres adjoining otvod 12, and, in addition to half of otvod 4, we have four plots of over 100 acres quite near to plot 387 (only one plot intervening). Apart from the obvious advantage of having our property explored free of cost, we are to receive from the Victory Company 17½ per cent. of the profits on the production from otvod 4 and 25 per cent. from otvod 12. The Victory Company, on the other hand, paid no cash for their portion of the two plots; therefore, the bargain, from a practical point of view, may be considered mutually advantageous. It was unfortunate for both companies that the work was unavoidably delayed for no less than eight months by the abnormal weather, but I am pleased to say great progress has been made since March last, and I hope we shall not have to wait much longer for satisfactory results. The fact that plot 532 adjoins the Maikop Spies Company's plot 533, on which they have had a producing well since the latter end of 1910, is a favourable feature. The Spies well is still producing about 10,000 poods per month.

The more I know of the oil business the more I realise that patience and indomitable perseverance are essential to success. It is a misfortune, so far as Maikop is concerned, that too much was made of the spouters in 1910. In this connection I well remember Mr. Tweedy's remarks at a meeting of another company in June, 1910. They were these: "I wish to give you a word of warning. In all oilfields that I know of it is the common experience that some of the wells bored do not produce oil, and I am quite sure that we shall have the same experience in the Maikop field." The fact is we are passing through exactly the same experiences as have characterised almost every successful oilfield. I fully realise that Maikop at the present moment has an unenviable reputation; yet there is no oilfield in the world, in its earlier years, that has given as large a production as Maikop, and, but for the bad weather which prevailed for so many months having delayed most of the exploratory work projected at the beginning of last year until March this year, I am confident the position would have been much better than it is. However, I hope patience and perseverance will overcome past difficulties. I do not think there is much more in the report which calls for any further elucidation. As you will understand, the expenses in the first year of most companies are generally heavy. This has been exceptionally so in our case, as a consequence of the additional expenditure incurred in the absorption of the whole of the interest of the old company towards the end of last year. Heavy legal and other charges will not now occur, and it will be possible to effect economies both in Russia and

in London. As you will have gathered from what I have already said, all the indications point to the maintenance, if not the enhancement, of our revenue. I regret that Mr. Tweedy is not with us to-day, as he had to leave for the oilfields on Wednesday last. I am sure you all realise the advantage to the company of having its managing director on the scene of operations, and it is needless for me to say that Mr. Tweedy will do everything that is humanly possible to bring this company into the dividend-paying list. I now beg to move that the report and accounts as submitted

be approved and adopted. I will call upon Mr. Hicks to second the resolution, and if there be any other point on which shareholders require information, I shall be pleased to answer any questions in reference thereto.

Mr. Alfred Hicks seconded the resolution, and it was carried unanimously.

The retiring director (Mr. Alfred Hicks) was re-elected, the auditors (Messrs. Harmood, Banner & Son) were reappointed, and the proceedings terminated with a vote of thanks to the chairman.

TRINIDAD CENTRAL OILFIELDS, LTD.

PROGRESS OF DRILLING OPERATIONS.

THE second ordinary general meeting of Trinidad Central Oilfields, Ltd., was held on Tuesday, the chairman of the company (Mr. Alexander Duckham) presiding. The following is an official report of the proceedings:—

The Chairman reviewed the progress which had been made by the company during the year. After reminding the shareholders that the company's oil rights under exploration and prospecting licences covered an area of some 26,000 acres, and emphasising the many reasons on account of which the properties were selected, he claimed that the resources of the company had been more economically utilised than those of any other concern in the island. The company possesses good healthy buildings, ample water storage for operations during the dry season, excellent roads and bridges, a railway siding and a thoroughly efficient drilling equipment. The Government railway now passes close to the centre of operations. With regard to drilling operations, the chairman stated that twenty search wells had been sunk with depths varying between 105 and 1,000 ft., and in fifteen of these traces or paying yields of oil had been encountered. He particularly drew attention to the high quality of the oil, which contains 35 per cent. to 42 per cent. petrol, some 40 per cent. kerosene and a residue

consisting of high-class lubricating oil and wax. Contrasted with the heavy black asphaltic oil, poor in petrol and containing a considerable percentage of sulphur, with which Trinidad has generally been credited, it was remarkable that the company's oil should be a limpid pale oil, sweet and practically free from sulphur, yielding the above-stated amount of petrol. He commented with satisfaction upon the efficiency of the local staff, headed by Mr. H. P. Ingram, the manager. Referring to the presence of the larger companies in Trinidad, he expressed it as his opinion that many exaggerations and misrepresentations had appeared in the Press in this connection, but that he himself thought that there was not the least doubt that in the long run these large interests would do much to prove the high value that should be attached to oil undertakings in Trinidad, and that when this was demonstrated the value of the properties in the island would be greatly enhanced.

The directors' report and balance-sheet were adopted, and Messrs. Percy M. Stewart and Harry C. B. Underdown were re-elected directors of the company.

Messrs. Cash Stone & Co. were re-appointed auditors, and the proceedings closed with a vote of thanks to the chairman.

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PETROLEUM IMPORTS INTO THE UNITED KINGDOM DURING AUGUST.

THE SHIPMENTS INTO VARIOUS PORTS.

THE various shipments of petroleum products into the U.K. ports during August are given in the following table. The total imports for the month were 36,482,580 gallons, or 1,887,890 gallons less than in July.

PORT.	Illuminating.	Lubricating.	Residuals.	Gas Oil (Solar).	Benzine.	Fuel Oil.	Other Descriptions.
Aberdeen	—	4,200	—	—	—	—	—
Barrow	—	—	—	—	516,730	—	—
Belfast	1,708,650	3,030	—	30,480	—	—	—
Boston	—	320	—	—	—	—	—
Bristol	4,276,500	141,800	—	724,590	—	—	12,440
Cardiff	—	3,530	—	—	—	—	—
Cork	—	1,110	—	657,500	—	—	—
Dublin	—	320	—	—	—	—	—
Dundee	—	1,040	—	—	—	—	—
Glasgow	40,960	226,250	—	—	—	—	16,200
Gloucester	—	1,960	—	—	—	—	—
Goole	—	200	—	—	—	—	—
Grangemouth	—	5,440	—	—	—	—	—
Granton	—	—	—	—	372,000	—	—
Grimsby	—	2,630	—	—	—	—	—
Harwich	—	3,650	—	—	—	—	—
Hull	1,408,000	232,090	—	—	—	—	—
Leith	2,180	34,760	—	—	—	—	6,000
Limerick	17,700	—	—	—	—	—	—
Liverpool	662,920	1,264,880	166,630	3,060	48,000	—	13,970
London	7,595,850	2,318,030	600	2,021,810	5,504,120	895,590	2,410
Manchester	709,200	1,062,300	—	1,084,910	—	869,330	16,390
Middlesbrough	—	4,000	—	—	—	—	—
Newcastle	—	5,880	—	—	—	—	—
Newport	—	500	—	—	—	—	—
Plymouth	—	80	—	—	—	192,500	—
Portsmouth	—	70	—	—	—	—	—
Southampton	806,400	100	—	—	—	—	—
Sunderland	—	—	—	—	—	778,920	—
Swansea	—	1,870	—	—	—	—	—
Totals	17,228,360	5,320,040	167,230	4,522,350	6,440,850	2,736,340	67,410

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HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

September 12th, 1913.

The market prices of Refined Petroleum are unaltered as follows:—Roumanian, 8d.; Russian, 8½d.; Galician, 8¼d.; American, 8½d.; American Water White, 9½d.

LUBRICATING OILS

The official quotations have remained unaltered for about six months until Thursday, when all the American qualities were reduced in price. The latest quotations are for:—

No. 1 Russian, spot and forward, £12. 2s. 6d.
American pale, from £9. 12s. 6d.
American dark, from £11. 2s. 6d.
American filtered cylinder, from £13. 12s. 6d.

FUEL OIL

The market price is 70s. net, per ton, in bulk, ex wharf, and for grease-making oil, 80s.

MOTOR SPIRIT

is unchanged at 1s. 9d. for the best quality retail, in London, and 1s. 7d. for the second quality.

TURPENTINE.

American Turpentine, after usual fluctuations, has closed steady at about the same price as our last report, namely, for spot 29s. 9d.; October/December, 30s.; January/April, 31s.

LIVERPOOL.

September 11th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8½d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, August 13th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
" Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, September 11th.

Oklahoma crude is still quoted at \$1.03 per barrel. Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, September 11th.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, September 9th.

The petroleum prices have remained firm. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, September 9th.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 52¼–52½ copecs per pood spot. Mazout, 50½–51 copecs. Kerosene, 68½–69 copecs.

ROUMANIA. September 9th.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Francs.
Bushtenari	7.00–7.20
Moreni	6.00–6.50
Tzintea	4.30–4.60
Policiori	4.25
Bana, 0.850	8.75
Paraffin	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	27.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	24.00–25.00
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	17.50
Residuals, f.o.b. Constanza	...	6.00
Gas Oil	...	8.00

AUSTRIA. September 9th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 33 kronen at Oderberg. Benzine, 710/720, 45 kronen; benzine, 740/50, 34 kronen; 770/80, 22 kronen at Oderberg. Gas oil, 8.00 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, E.C., report under date September 11th as follows:—

No change in prices, which remain approximately as under:—

1c	18½ × 14	124 sheets	110 lbs.	13/6	per box.
1c	20 × 10	225 "	156 "	19/3	"

F.o.b. Wales. Tin lining and iron hooping extra.

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Contracted for by

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CONTRACTOR TO H.M. GOVERNMENT.

The American Oil Market.

Saturday, August 30th, 1913.

THE crude market has been featured by further advances during the week, affecting the light grades of Caddo and Corsicana, as well as the Electra and Henrietta products all by 5 cents, establishing them at the following basis: Caddo, 32 at 35°, 95 cents, 38° \$1.05; Corsicana light, Electra and Henrietta, \$1.05. Of further interest in the crude situation, says the *Oil Paint and Drug Reporter*, has been the report of the official record of exports for July and the seven months ending July, in which gratifying gains are noted. For July the shipments amounted to 24,306,991 gallons (\$1,110,040), as against 18,473,221 gallons (\$682,081) for the same month last year. Seven months' totals show 114,180,576 gallons (\$4,790,193) for 1913, and 103,456,806 gallons (\$3,666,769) for 1912. On the basis of seven months' figures is shown a gain of 10.37 per cent. in volume and 30.64 per cent. in value. The increase for the same period last year amounted to 5.70 per cent. in volume and 27.41 per cent. in value.

The week's review of Eastern field operations notes a slight decline in completions, but in the face of this, the new production scored a substantial increase. The summary shows 270 completions, 5,798 barrels of new daily production and 77 dry holes, as against 272 completions, 3,975 barrels of new production and 89 dry holes for the former week. While the only fields to show a gain in completions were North-western Ohio, Indiana and Illinois, all of the fields, with the exception of South-eastern Ohio, registered a gain in new production. Illinois is now at the head of the list in both completions and new production. The most material gain in new production for the week was in West Virginia, although fewer completions were recorded. In the high-grade Pennsylvania fields Harrison county, West Va., has been the most prolific source of new production, holding first place as well in completed work. This county is credited with having the best producer in the West Virginia field. A recent gauge of the output of this well was 325 barrels in twenty-four hours. There are still evidences of encouraging results in Kanawha county.

The week's operations in Illinois have been attended with better results, although the scarcity of water still tended to check drilling. One of the features of the week was the bringing in of a 125-barrel producer in Maconpin county. Drilling is expanding in all directions from defined limits in the State with encouraging prospects of opening new additional territory before winter. One of the districts to attract special attention is the eastern part of Lawrence county, where several tests are in progress with a view of connecting the district with the older producing sections of the same county.

Advices from the Gulf coast fields of Texas and Louisiana note a decline in new development work, with little outlook for any stimulating influence until the market for crude is on a more favourable basis. The usual interest in wildcat work, however, is reported. A deep test in Orange county, Texas, attracted interest, as the well found its pay at 3,130 ft., which is said to be the deepest sand yet found in the coastal fields. Its production was given as 200 barrels, the well coming in under a strong flow of natural gas and having 21° gravity. Of the 28,340 barrels reported as the daily output from the Texas Panhandle fields, Electra is credited with 25,000 barrels, by far the largest pro-

ducer of any of the Texas fields. While the territory is said to be spotted, the field has many producing sands, and the wells, as a rule, have shown good staying qualities.

Refined Products.

The only feature of the week affecting the market for illuminating oil has been the revision in the local schedule by $\frac{1}{2}$ cent. in the barrel prices for 130 and 150 tests, establishing them at the easier basis of 11 $\frac{1}{2}$ cents for the former and 12 cents for the latter. The variation was regarded more as an equalization of a change in the allowance upon return barrels than due to any actual change in the oil situation. This is borne out by the fact that tank-wagon quotations were not affected, remaining at 8 $\frac{1}{2}$ cents for 130 test and 9 cents for 150 test.

Lubricating Oils.

A continued quiet market has been reported for the lubricants, but the seasonable influence bears directly upon this condition. Prospects for the fall are still regarded with encouragement, and with further evidences of the strengthening course of crude values an apparently steady market prevails.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. August 30.	1913. August 30.
Pennsylvania	\$1.60	\$2.50
North Lima	1.04	1.39
South Lima	0.99	1.34
Indiana	0.99	1.34
Illinois, above 30 degrees	0.87	1.30
Kansas and Oklahoma	0.70	1.03
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex	0.75	0.90
Californian, Coalinga light	0.65	0.60
" Kern River heavy	0.35	0.35
CANADIAN OIL	1.44	1.79

REFINED—FOR EXPORT.

In cents.	Week ended August 30.	
	S.W.	W.W.
	110 test.	150 test.
Bulk, New York ... per gal.	5.00	6.00
Barrels, New York, cargo	8.70	9.70
Barrels, Philadelphia	8.70	9.70
Cases, New York	11.00	12.00
Cases, Philadelphia	11.00	12.00

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000	\$11.15
1,000 to 3,000	11.25

REFINED—JOBGING LOTS.

In barrels, pkgs. included.	
130 fire test, S.W.	11 $\frac{1}{2}$
150 fire test, W.W.	12
From tank wagons	8 $\frac{1}{2}$ -9

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29 $\frac{1}{2}$

TOTAL EXPORTS.

	Current week.	Since Jan. 1, 1913.	Since Jan. 1, 1912.
	Gallons.	Gallons.	Gallons.
Crude	1,110,610	102,881,039	85,657,655
Refined	35,015,650	591,214,637	597,302,045
Naphtha	1,060,965	67,879,625	99,512,240
Gas oil	30,625	20,850,510	41,652,670
Fuel oil... ..	7,576,900	91,830,460	51,634,790

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Glinik Maryampolski, Galicia, Austria.
Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.
Oil Well Supply Co. (Pittsburgh), Dashwood House,
London, E.C.
Thom, John M., Patricroft, near Manchester.
Trauzl & Co., Vienna.

BUILDINGS.

Boulton & Paul, Ltd., Norwich.

CHEMICALS.

Spencer, Chapman & Messel, Ltd., 36, Mark Lane, London, E.C.

DRILLING MACHINERY.

Deep Well Tool and Boring Co., Ltd., St. Albans.
Fraser & Chalmers, Ltd., 3, London Wall Buildings,
London Wall, E.C.
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London, E.C.
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Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.
Homelight Oil Co., Ltd., 14, St. Mary Axe, E.C.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

LIQUID FUEL BURNERS.

Kermode's Liquid Fuel System, 35, The Temple, Dale Street, Liverpool.

LIQUID FUEL IMPORTERS.

The Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.
Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.
Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.

LIQUID FUEL INSTALLATIONS.

The Wall-end Shipway and Engineering Co., Ltd., Wallsend-on-Tyne.

LUBRICATING OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.
Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.
Bramwell, Fern & Co., London, Manchester and Liverpool.
Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.
Crew Levick Co., Irwell Chambers, W. Liverpool.
Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.
Mcade, King, Robinson & Co., 22, Water Street, Liverpool, and Manchester.
The Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
Waverley Oil Work Co., Pittsburgh, Pa., U.S.A.
Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL BROKERS.

Benjamin & Gee, 31, St. Mary Axe, E.C.
Bramwell, Fern & Co., London, Manchester and Liverpool.
Lane & Macandrew, 26, Great St. Helen's, E.C.

OIL EXPORTERS.

Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
Waverley Oil Works Co., Pittsburgh, Pa., U.S.A.

OIL ENGINES.

Norris & Henty, 87, Queen Victoria Street, E.C.
Marshall, Sons & Co., Ltd., Britannia Works, Gainsborough.

OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.
Anglo-Maikop Corporation, Ltd., 7, Angel Court, E.C.
Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.
Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.
Crew Levick Co., Irwell Chambers, W. Liverpool.
Homelight Oil Co., Ltd., 14-20, St. Mary Axe, E.C.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
Waverley Oil Works, Pittsburgh, Pa., U.S.A.
Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL PIPELINES.

Russell, John, & Co., Ltd., Alma Tube Works, Walsall.
Stewarts & Lloyds, Ltd., 41, Oswald Street Glasgow.

OIL TRACTORS FOR TRANSPORT.

Marshall, Sons & Co., Ltd., Gainsborough.

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RUSSIAN OIL IMPORTERS.

British Petroleum Co., Ltd., 22, Fenchurch Street, E.C.
Homelight Oil Co., Ltd., 14, St. Mary Axe, London, E.C.

SHIP BROKERS.

Gibson, E. A., & Co., 22, Billiter Street, London, E.C.
Lane & Macandrew, 26, Great St. Helen's, E.C.
Moss, H. E., & Co., Liverpool, London and Newcastle.

STORAGE ACCOMMODATION.

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SULPHURIC AND ANHYDRIDE ACIDS.

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TANK BUILDERS.

Dampfkessel und Gasometer Fabrik. Act. Ges. Braunschweig, Germany.
Walker, C. W., Ltd., Donnington, near Newport, Salop.
Whessoe Foundry Co., Ltd., Darlington.

TIN PLATES.

Norton, Owen & Co., 4, Bishopsgate Street Within E.C.
Prior, S. J. B., 5, Laurence Pountney Hill, E.C.

TRAM AND WAGON GREASE.

Goodall & Simpson, Ferry Road Oil Works, Cardiff.

TUBES (STEEL AND IRON).

Deutsche - Oesterrichische Mannesmannröhren Werke, Düsseldorf, Germany.
Russell, John, & Co., Ltd., Alma Tube Works, Walsall.
Spencer, John, Ltd., Globe Tube Works, Wednesbury.
Thom, John M., Patricroft, near Manchester.

WAXES.

Benjamin & Gee, 31, St. Mary Axe, E.C.

WIRE ROPES.

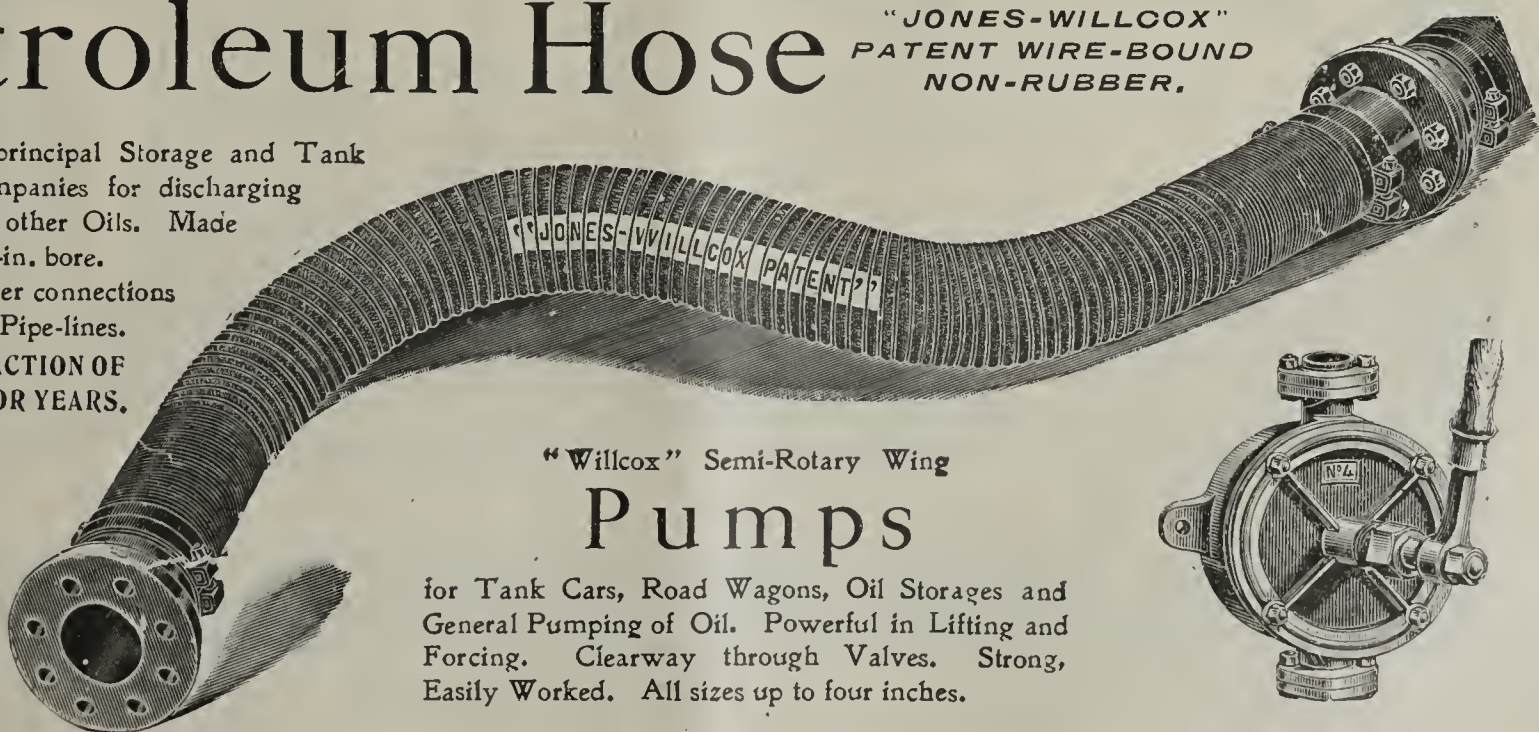
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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

The Canadian Oil Shale Deposits.

A MILD boom appears to be pervading the Canadian oil shale fields in consequence of the desire of the British Admiralty to draw as great a portion of its liquid fuel supplies as possible from dominions within the Empire. Without a doubt there is a vast future for the Canadian oil shale industry, for while we cannot look to any substantial development of Canada's liquid oil supplies, the high class quality of the country's shale deposits is such that a healthy wave of development is bound to be created in the not distant future in the mining of Canadian oil shale. The shales of New Brunswick are well known, yet even these are not at the moment being commercially developed, and in many quarters of the Dominion, where extensive deposits exist, public interest in their potentialities is only at the time of writing being awakened. The Province of Alberta, however, promises to be the scene of the earliest development, for recent discoveries have unearthed immense quantities of rich shale at shallow depths. It will be no surprise therefore to find several important floatations of shale propositions within the next few months in this country, for already a large amount of American finance is forthcoming in order to facilitate rapid development.

The Ever Present Water Trouble.

AS has been suggested on more than one occasion in these columns, the water difficulty in oilfield operations is of such importance as to warrant the formation of an international committee of competent gentlemen, who shall approach the subject in all its seriousness and formulate remedies for preventing the incursion of water into oil wells. Every field suffers more or less from the same trouble, for the evil is ever present, yet in no oilfield have such strenuous efforts been put forward to grapple with the matter as in the case of California, which was at one time seriously threatened.

The latest field to be attacked is Mexico, where in the Topila region large numbers of the oil wells have turned to nothing but producers of salt water. In fact, it is the presence of this trouble that largely accounts for the heavy slumps in some of the stocks of the Mexican companies on the American markets, where it is generally recognised that when once water makes its appearance the well might as well be closed and wiped off the asset account. The unsettled condition of Mexico politically may account for much, but the water trouble in several of the producing fields is the chief difficulty.

Disappointing Results for the Maikop Spies Company.

THE report of the directors of the Maikop Spies Company, Ltd., which has during the present week been circulated to the shareholders, is of a very disappointing character, inasmuch as it clearly shows that one of our best managed English companies in Russia has met with such misfortune in the Maikop fields that it has decided to dispose of several of its plots, and to seek opportunities for the exploitation of crude oil elsewhere in south-western Russia. The plain inference which must be drawn from the report is that the Maikop field has not justified the high hopes held out for it: but those who read between the lines of the report cannot but be impressed with the fact that the water trouble in the Company's wells has played serious havoc with production and caused the abandonment of several promising producers. The water problem is always one of the most important difficulties to guard against in any oilfield, and the official announcement made by the directors that in several of their wells it has been found impossible to close off the water-bearing strata is something approaching self-condemnation of the methods now employed in the supervising of wells in the course of drilling. We cannot but believe that had more care been exercised in this direction, the Company would not have found itself in its present position. To drill a well which fails to reach the oil sands is, naturally, an unfortunate occurrence, but to bring in a producing well which eventually goes off to water owing to the imperfect methods employed in regard to water shut-off is in itself suggestive of total lack of care.

The Passing of the California Oilfields, Ltd.

WITH the announcement of the commencement of the exchange of shares of the California Oilfields, Ltd., for those of the "Shell" Company, it is evident that the *régime* of the first-named concern is about to pass from the purview of those interested in oil. The secretary of the California Oilfields, Ltd., announces that he has been notified by holders of 356,886 shares in the

company of their readiness to exchange their shares for "Shell" shares on the terms already announced, and had received transfers accordingly. This figure, together with the 5,000 directors' qualification shares, which will also be transferred, has been deemed by the Anglo-Saxon Petroleum Company, Ltd., to represent a sufficient proportion of the total shareholders of the company to satisfy the conditions of their offer, and the exchange will therefore be carried into execution immediately. The secretary of the California Oilfields, Ltd., is authorised to announce that the Anglo-Saxon Petroleum Company, Ltd., being willing to keep open their offer for the present, any shareholders who have not been able to forward the necessary documents and acceptances to the secretary of the California Oilfields, Ltd., prior to September 15th, but who still desire to transfer to the Anglo-Saxon Petroleum Company, Ltd., on the terms of the circular of August 28th, should immediately and duly execute the form of transfer, and forward same to the secretary of the California Oilfields, Ltd., 145, Dashwood House, London, E.C.

THE SHELL TRANSPORT AND TRADING COMPANY, LTD.

Rumour of the acquisition of more Californian Properties.

FOLLOWING upon the announcement which we recently made of the acquisition of the California Oilfields, Ltd., by the Shell—Royal Dutch interests—comes the rumour which is generally accepted by oil men in the Californian fields, and which so far has not been officially denied, that the company has purchased the Turner Oil Company and the W. K. Oil Company, both well-known operating concerns in California. The two concerns possess 640 acres of oil territory in the eastern part of the Coalinga field, adjacent to the property of the California Oilfields, Ltd., and their combined output is 4,000 barrels a day of an excellent oil for refining purposes. At present the product is being sold to the Standard Oil Company, but it is said that these contracts, like that of the California Oilfields, will expire before the end of the year. The purchase of the whole of these three concerns, therefore, by the Shell interests, means that the Standard will lose about 18,000 barrels per day of the best refining oil in California.

Our contemporary, *The Oil Paint and Drug Reporter*, states that it is not yet known how the new owners intend to handle this production. They have no pipeline facilities of their own, but may, under the new Common Carrier Law force the Standard, the Associated, or the Independent Company to carry their oil to tidewater. The *Reporter* adds that for sometime it was reported that the Shell interests were contemplating the construction of a line from the Valley fields to tidewater, at Ventura, but it is now understood that this proposition has been dropped.

MR. E. T. BOXALL.—Above the suggestive line of "Galician Oil" appears an excellent cartoon of Mr. E. T. Boxall, the well-known chairman of the Premier Oil and Pipeline Company, Ltd., in this week's *Mayfair*, together with a well-written, though brief, article upon the many things Mr. Boxall has done to bring Galician oil before English investors. Mr. Boxall, by the bye, leaves next week to visit the scene of his recent triumphs—Galicia.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended September 13th was 110,000 poods.

SPIES PETROLEUM COMPANY, LTD. — The latest figures of production (for the week ended August 31st), including 10,065 poods pumped from ambars, are 179,315 poods, or about 2,892 tons. The total production for the year, from Jan. 14th to August 31st, was 9,133,570 poods, or about 147,316 tons. The total production for the corresponding period last year was 10,867,515 poods, or about 175,282 tons. Price of crude oil at Baku is now 54½ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD. — The production of crude oil for week ended September 13th was 13,568 poods (219 tons).

EUROPEAN OILFIELDS CORPORATION, LTD. — The production for the week ended September 14th was 99,200 poods, or 1,600 tons. Crude oil at Blacktown is now 54½ copecs per pood.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended September 13th was 116,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended September 13th was 28,189 poods (455 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended September 13th was 7,198 poods, or 116 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended September 14th was 12,697 poods, or 205 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended September 13th, 100,220 poods or 1,616 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest figures of production (for week ended September 2nd) are 58,300 poods, or 618 tons. Corresponding period last year, 730 tons. Total production to date for this year, 65,855 tons, last year 18,724 tons. For the week ended the 16th inst. there is no production to report, owing to the strike. A further meeting between employers and workmen has been held, but without result.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended September 14th was 65,933 poods or 1,063 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended September 13th was 14,950 poods.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended September 13th was 14,230 poods (230 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended September 13th was 1,420 poods (23 tons).

CHELEKEN OILFIELDS.—Production, for fortnight ended September 13th, 1,888 tons.

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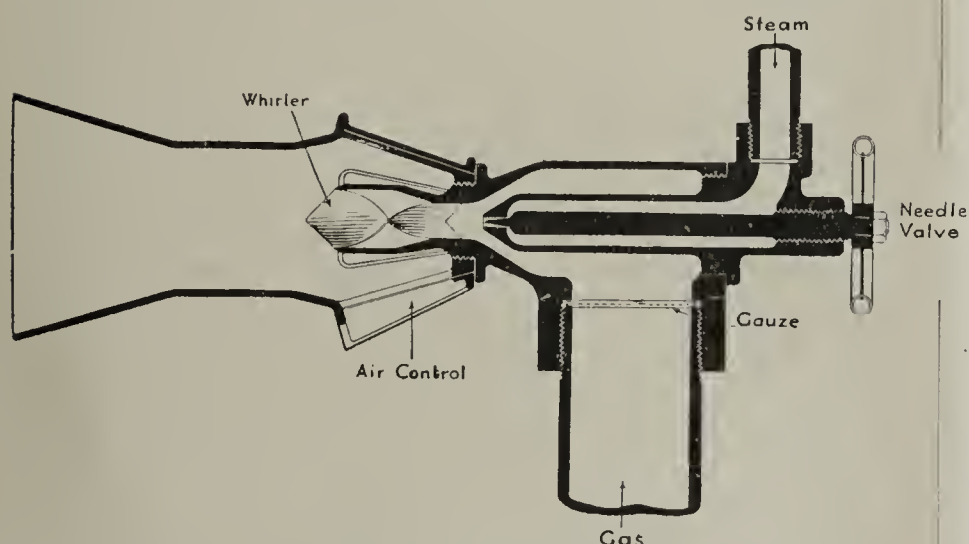
“The Hunter” Combination Gas Exhauster and Burner.

An Ingenious Arrangement for Utilising Oil Fuel Gases.

“THE HUNTER” Burner, which Messrs. Joseph Stephenson & Co., 46, Queen Victoria Street, London, E.C., are placing on the market, comes at an opportune time as an apparatus before which there is a remarkable future on the oilfields, it is specially designed to utilise low-pressure gas, enormous quantities of which are now going to waste on practically every oilfield in the world. The magnitude of this loss can hardly be over-estimated, most operators being deterred from using gas owing to the heavy expense of installing pumps and other costly plant for collecting and forcing it to their boilers, etc.

The operation of the burner is simplicity itself, and its construction is so straightforward that it cannot possibly get out of order. Where high-pressure gas is available no steam is needed, and the burner draws in automatically the exact proportion of air necessary for perfect combustion. With low-pressure gas it is merely necessary to open up the steam needle valve to create a powerful suction on the gas main and a largely increased flow of gas. The mixture of steam and gas acquires a high rotary velocity in the throat of the burner, and during its passage through the mixing chamber sucks in the requisite air for complete combustion through circumferentially-disposed ports. By adjusting the position of the sleeve which controls these ports the length of the flame can be varied.

The gas and steam cones have been designed scientifically and proved correct by actual practice, the result being that the burner works perfectly with gas at anything from atmospheric pressure upwards, while the steam consumption does not exceed that of a well-designed oil burner of equal evaporative capacity.



Section of the Burner.

Further, the exhausting action of the burner is such that it will create in a closed air-tight line a vacuum of several inches of mercury.

“The Hunter” Burner draws its full rated quantity of gas while maintaining a vacuum of 2 ins. of mercury, or 27 ins. of water, given a steam pressure of 60 lbs. per square in. Higher steam pressures increase the quan-

ties of gas passed, a similar result being obtained when the gas itself is supplied under pressure.

When a burner is required primarily for exhausting wells, so as to increase the production of oil, it is necessary to allow for the gas which will be drawn off, and select a burner of ample capacity.



External View of the Exhauster and Burner.

Owing to the clean nature of the flame and its uniform heat, the burner can be used under any type of boiler, whether fixed or portable, cylindrical or tubular, without fear of burnt rivet heads or tube plates.

“The Hunter” burner is constructed for rough everyday field work, and possesses many unique features, amongst which may be cited the following; 1. Extreme simplicity; 2. Draws its own gas supply; 3. Does away with gas pumps; 4. Creates a high vacuum; 5. Increases production in old oil wells; 6. Fires any type of boiler; 7. Invaluable for bit dressing, smithy work, etc.; 8. Low steam consumption; 9. Air supply under complete control, and 10. Ensures complete combustion.

The following tabulated details will be of interest as showing the efficacy of “The Hunter” Burner:—

	SIZE A.	SIZE B.
Gas consumption per hour, with gas at atmospheric pressure, and steam at 60 lbs. (4 atm.) per square inch ...	2,000 cu. ft. (57 m ³)	4,000 cu. ft. (114 m ³)
Oil equivalent, in barrels per 24 hrs.	7½	15
“ “ “ kilos, “	1,066	2,132
“ “ “ tons, “	1.07	2.14
“ “ “ poods “	66	132
Length over all ...	16 ins.	18 ins.
Approx. net weight in Malleable Iron	7½ lbs. (3½ kg.)	9½ lbs. (4½ kg.)
“ “ “ Burnished Brass	8½ lbs. (4 kg.)	10¾ lbs. (5 kg.)
PRICE—Malleable Iron . LONDON	£7	£10
“ “ “ NEW YORK	\$35.00	\$50.00
“ Burnished Brass... LONDON	£7. 10s.	£11
“ “ “ NEW YORK	\$37.50	\$55.00

MAIKOP PRODUCTION DURING JULY.

THE total production of petroleum during July amounted to 384,120 poods, the total deliveries to 376,886 poods, and there were left in store on August 1st 100,825 poods. Of the total production, 146,603 poods were obtained by the Black Sea Company, 84,457 poods by Maikop Spies Company, 68,589 poods by British Maikop Company, 52,260 poods by Maikop Victory Company, 24,839 poods by Maikop Premier Oil Syndicate, 4,939 poods by Maikop Evema Company, 979 poods by London and Maikop Corporation, Ltd., 764 poods by Maikop Plots Company, 512 poods by Maikop Valley Company, and 180 poods by Pekhovski.

MISCELLANEA.

THE PETROLEUM DEPOSITS AT SARAWAK.

Production now on a commercial basis.

A TELEGRAM from Singapore reports that rapid progress has been made with the production of crude oil at Sarawak. Several wells at shallow depths have come in, giving a sustained production, and at a much deeper level a second oil stratum has been struck. Large and regular shipments of the oil are taking place, the motor-ship "Juno" being employed for this purpose, and the oil being treated at the Shell Company's refineries in Sumatra. It is satisfactory to be able to record that the long-wished-for discovery of petroleum in this territory under British jurisdiction is established.

KERMODE'S OIL-FUEL SYSTEM FOR A RUSSIAN GOVERNMENT VESSEL.

AN interesting order has recently been placed with Messrs. Kermode, Ltd., the well-known Liverpool liquid-fuel burner inventors. This contract is for their oil-firing apparatus for use in an ice-breaking vessel building for the Russian Ministry of Ways and Communications. This order has been entrusted to a British firm, who have been selected to do the work after competition with other makers of oil-fuel

appliances, particularly of German manufacture. The system to be used is the Kermode pressure jet apparatus, in which neither air nor steam is required to "disintegrate" or "atomise" the oil, as the spraying is effected by means of pressure brought to bear upon the oil itself by a force pump. Special appliances are to be fitted in order to heat the oil, owing to the exceptional weather conditions in which this vessel will be required to work. Duplicate sets of filters will also be installed to ensure that the oil is delivered to the sprayers entirely free from any impurity which might lead to the burners being fouled.

CALIFORNIA'S RECORD PRODUCTION DURING JULY.

THE total output of crude oil in the Californian fields during July was greater than in any month of the history of the industry, the production in all the fields of the State for the month being 8,573,900 barrels. The increased output was largely due to the activity of the Standard Oil Company's No. 10 well, which, under control, has settled down to a daily production of 10,000 barrels. Development work in the fields is on the decline, and during July only about 300 wells were being drilled, while work in the coast districts was almost entirely stopped.

NEW ENGLISH COMPANIES.

ANGLO-RUSSIAN INVESTMENT AND FINANCE SYNDICATE, LTD.

REGISTERED on September 6th, by Cave, Crickway & Rundle, 20, Eastcheap, E.C. Capital, £10,500 (10,000 preference shares of £1 each and 10,000 ordinary shares of 1s. each). Objects: To purchase or otherwise acquire and deal in petroleum, naphthaline or oil-bearing lands and any rights connected with the winning and getting of such substances and to turn the same to account; also to carry on the business of dealers in and refiners of petroleum, naphthaline, mineral oils and other similar articles. Private company. Signatories: Thomas G. Conyer, 49, Pemberton Road, Harringay, N., and Albert P. Knight, 67, Ollerton Road, New Southgate, N. First directors (who are to number not less than two or more than seven) are to be appointed by signatories. Remuneration: £100 per annum (chairman, £125). Registered office: 20, Eastcheap, E.C.

THE DONNYBROOK SYNDICATE, LTD.

Registered on September 8th, by George Reader & Co., 35, Coleman Street, E.C. Capital £1,000, in 5s. shares. Objects: To carry on all kinds of exploitation businesses, to explore and examine lands supposed to contain oil, to purchase or otherwise acquire oilfields and oil wells, etc., and to enter into an agreement with Loder Donisthorpe and David Stanley Hodge. Private company. First directors (who are to number not less than two or more than five) are David Stanley Hodge and Loder Donisthorpe.

THE SEVEN SANDS, LTD.

Registered on September 9th, by Faithful and Owen, 58, Lombard Street, E.C. Capital, £500, in £1 shares. Objects: To purchase or otherwise acquire any oil-bearing lands, and to construct and maintain any oil wells, etc. Private company. First directors (who are to number not less than two or more than five) are Hubert F. Jackson, Pinner's Hall, Great Winchester

Street, E.C., and George A. Kerr, 29, Gracechurch Street, E.C. Registered office: Pinner's Hall, Great Winchester Street, E.C.

COMMERCIAL, OIL AND GENERAL SYNDICATE, LTD.

Registered on September 15th, by F. Stuttford, 11, St. Helen's Place, E.C. Capital £10,000 (9,400 ordinary shares of £1 each and 12,000 deferred shares of 1s. each). Objects: To search for, prospect and explore mines, oil, and oil leases and grounds containing or supposed to contain oil and petroleum. First directors: Herbert Sidney Bannister, "Eskdale," Natal Road, Palmer's Green, N., and B. Ferdinand King, 25, Manor Gardens, Merton Park, S.W. Registered office: 11, St. Helen's Place, E.C. Private company.

THE EASTERN PETROLEUM COMPANY (1913), LTD.

Registered on September 12th, by Charles R. Enever, Broad Street House, E.C. Capital: £200,000 in £1 shares. Objects: To acquire and take over as a going concern the business of the Eastern Petroleum Company, Ltd., and to enter into an agreement with the latter company and John Barber; to purchase or otherwise acquire and deal in petroleum and oil-bearing lands, and any rights connected with the winning and getting of petroleum or other oil; and also to carry on the business of dealers in and refiners of petroleum and other mineral oils. Minimum cash subscription: seven shares. Signatories: C. H. Paterson, 19, Thornton Road, Barnet, Herts.; L. V. Tucker, 5, Noel Road, North Acton, W.; William Fuller, Broad Street House, E.C.; W. G. Sallis, 2A, Blundell Street, Caledonian Road, N.; D. M. Holman, "Spencer House," 19, Larkhall Rise, Clapham, S.W.; A. M. Whetton, 45, Bromfield Road, Surbiton, and L. Linton, 116, Sandringham Road, Dalston, N. First directors (who are to number not less than two or more than seven) are to be appointed by signatories. Registered office: 71, Finsbury Pavement, E.C.

THE OILFIELDS OF BURMA.

Their History and Development.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

*Reprinted from
"Memoirs of the
Geological Survey
of India."
Volume XL, Part I.*

(Continued from page 280.)

THE YENANGYAT FIELD.

"SPRINGS of petroleum" opposite to Pagan are mentioned by Buckland. T. Oldham after his visit in 1855 drew attention to the oil indications here, and pit wells were probably started about 1864. The oilfield of Yenangyat proper does not begin until we reach the northern part of Block 12 and east of it: from here it extends northwards.

The central and richest area, Block 9, is in the hands of the Burma Oil Company. Dr. Noetling enumerates ten oil sands and Grimes twelve, but although the strata are more constant than they are at Yenangyaung, we find the same difficulty in differentiating the various oil sands, and to attempt to number them serially is ill-advised, as there is little doubt some of them split into two while others amalgamate; there is frequently a difference in level between the wells of 300 or 400 ft., and no reliable data regarding these differences are available. It is of little use, therefore, endeavouring to identify sands except over small areas. There are a few unimportant shallow sands at various depths worked mostly by native hand-dug wells but sometimes by the company, the best lying between 260 and 375 ft. This sand is recorded as having yielded as much as 2,200 gallons in one well and 1,200 gallons in another per initial twenty-four hours. Good oil sands are met with at various depths between 500 and 1,300 ft. near the crest, one rich sand frequently occurring between 1,100 and 1,150 ft. below the level of the larger stream beds. The yield rarely rises to 300 or 400 barrels and is usually under 100 barrels. Fortunately, the greater number of wells commence by flowing, though often slowly; the decline in yield is rapid and often within a few months pumping is resorted to. The anticlinal arch being an asymmetric one, the crests formed by the various oil sands do not lie vertically under one another nor under the exposed crest: the deeper the stratum the greater the displacement westwards of the crest caused by what I have called the "hade of the crest-locust." Therefore, since, as a general rule, the most productive wells are those which tap the highest portions of each sand, very careful calculations as to the most advantageous distance from the superficial crest are necessary before drilling a well to tap a given sand. It will be noticed that the most advantageous distance of a well from the exposed crest for any one oil sand may be too great or too small for a shallower or deeper sand respectively, so that, unlike the symmetric fold of Yenangyaung, by deepening a well which has been yielding richly but has declined in output, it is by no means to be expected that a correspondingly rich yield will be encountered in the deeper sand below. This peculiarity necessitates the sinking of a greater number of bores. The deepest well in the block is 2,180 ft. The producing area has

been fairly extensively drilled upon, especially in the centre.

The maximum distance west of the exposed crest at which a producing well has been sunk in this block is 2,000 ft., the well in question producing a maximum yield of 50 barrels per twenty-four hours from a sand 700 ft. deep; this is evidently close to the limit for this particular sand. The limits for the deeper sands are probably further west, but can only be precisely ascertained by experimental boring. No oil has ever been obtained east of the crest except in shallow hand-dug wells. One or two bores drilled practically upon the superficial crest have obtained small quantities of oil from shallow depths. As in all other blocks of this field, the rough, hilly character of the surface greatly impedes the selection of the most advantageous sites, and an excellent location made upon the geological map is often rendered impossible through topographical difficulties. The construction of a road and possibly a bridge for the transport of the boiler are not inconsiderable items of expense, when a height of 400 or 500 ft. has to be scaled.

Block 10, to the south, is held by the Minbu Oil Company. The pitch of the anticline southwards from Block 9 to Block 10 is at first somewhat rapid, so that the latter area in spite of its contiguity to the richest block in the field is disappointingly poor, though one well proved itself a pleasant anomaly by producing 30,000 gallons in the first twenty-four hours from a very shallow depth; the yield fell rapidly. As a rule the yield is considerably less than that of the wells in Block 9. The petroliferous area also in the south is much narrower owing to the small monoclinical fold in the western limb of the anticline immediately west of the crest. This structure should allow of a narrow belt of rich wells in the south, though it may be difficult at first to gauge its precise position. A well was put down in Block 33 to a depth of 1,400 ft., but needless to say was entirely unsuccessful.

The monoclinical bend on the western limb continues into the next block, No. 11, where the oil-bearing belt is narrower still, and it becomes still more difficult to light upon the correct line along which rich wells may be expected. For instance, a well 745 ft. distant from the crest, produced a yield of 20,000 gallons in the first twenty-four hours, while another, 120 ft. deeper, 850 ft. from the crest and 280 ft. from the first well, produced only 800 gallons. Another well in this block produced about 12,000 gallons: 1,000 to 1,200 gallons is a more usual figure.

In Block 12, and to the east, some eight wells have been drilled by the Burma Oil Company, mostly in the north-east corner. One was bored east of the crest and, of course, met with no oil; another produced as much as 7,500 gallons from a depth of 600 ft., but the rest are small wells. The same monoclinical fold extends throughout this into the next block, so that the oil-

bearing belt persists in being very narrow and is dying out in this block.

Two holes were put down in Block 13 along the bank of the large stream by the Rangoon Oil Company, but both were too far from the crest to be adequate tests. No. 2 especially was much too far away, and, although drilled to over 2,200 ft., met with nothing but water. No. 1 obtained a small quantity of oil but not in paying quantities. No wells of any magnitude are likely to be struck in this block, but in view of the gentleness of the sinking of the fold here it is possible that the oil pools may persist as far south as this in a very narrow belt. The north-east corner is the best place for a test, and this should be between 650 and 750 ft. west of the crest.

Returning now to Block 9, we may trace the Yenangyat field northwards. Block 8, in the hands of the Rangoon Oil Company, is a little inferior to Block 9, but decidedly superior to Block 10, since the sinking of the fold is more gradual northwards than it is southwards. 1,200 to 2,000 gallons per initial twenty-four hours is a common yield, but a few wells have reached 12,000 or 16,000 gallons and two wells each produced 28,000 gallons, from a depth of about 1,000 ft.

In Block 7, to the north, held by the Burma Oil Company, the monoclinical fold in the western limb just west of the crest has caused the oil to collect in a narrow belt just as it has in the southern end of this field, and several failures were experienced before the correct lie of the pools was gauged. Three or four wells produced initially over 2,000 gallons, and one yielded 27,000 gallons, but most of them gave 1,000 gallons or less.

The crest passes across the eastern block-line of

Block 7 into Block C, held by the Rangoon Oil Company. There is no doubt oil occurs in this block, but it is at present being held in reserve.

From Block C the crest passes northwards into Block B where, owing to a flattening and broadening of the anticline, it reaches a minimum elevation. No monosyncline disturbs the western flank in which low dips of 12 to 15° or less persist for over 1½ miles at least. Two wells were sunk by the Rangoon Oil Company, and 320 gallons a day were obtained from one well. A good deal of gas was also obtained in this well, so that, although this appears to be the lowest point between the two crest-maxima of Yenangyat and Sabe, the two oilfields meet, as it were, and the intervening tract is not absolutely barren, although of little or no value commercially.

(To be continued.)

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THE SURAKHANY PETROLEUM DEPOSITS.

UNDER the above heading the *Nefstannoie Dielo* contains a very interesting reprint from the *Kavkaz*, giving information on this very important petroliferous district.

At the rate of the decrease of petroleum production on the four principal areas of the Apsheron Peninsula—Balakhany, Saboontchi, Ramany, and Bibi-Eybat—more attention is being paid to the secondary areas among which the first place is occupied by the Surakhany deposits.

Outbreaks of petroleum gases have been known in the surroundings of the village of Surakhany from immemorial times. Here was situated the famous temple of eternal fire, so well known to this day all over the world. Local inhabitants used the outbreaking gases for their domestic needs, whilst it was also used in limekilns. Here also they used to produce, by means of shallow hand-dug wells, small quantities of the so-called “white petroleum,” which was used as a preventative against rheumatism and skin diseases.

Surakhany may be considered as the cradle of the Russian petroleum-refining industry, for here was erected, in 1860, the first Russian distillery for refining “photogene”—an enterprise of the “Caspian Trading Company” with Kokoreff and Gubonin at the head. The initiator of the idea was Baron Tornau. Photogene was obtained by distilling kir, and the underground gas was used as fuel. But this first attempt was not successful, and the refinery, after two years’ existence, was closed. Later on there were erected several other refineries for distillation not of kir, but of petroleum, and the illuminating oil was then given the name of “kerosene” instead of “photogene.”

But, after the first failure, Surakhany was abandoned on behalf of the neighbouring areas, and for a very long time the area was considered as worthless as regards its petroliferous nature. In 1901 the Baku Petroleum Company, which acquired Kokoreff’s refinery, laid down two deep wells in order to ascertain the petroliferous nature of their plot of twelve dessiatines. The wells gave small quantities of white oil and abundant gas. One well was then deepened to 731 ft., the other to 625 ft., and the produced gas piped to the Saboontchi fields of the company, where it was used under the boilers. These satisfactory results gave an impetus to the development of the Surakhany gas industry. The company extended the enterprise by boring six new wells in 1904, and at the end of 1904 three new firms started boring (Mirzoeff Bros., Nobel Bros., and Benkendorf), and in 1905 two more (the Caspian Black Sea Company and the Surakhany Society). In 1906 a spouter broke out from well No. 10 of the Baku Petroleum Company, which yielded during the first month gas equivalent to 17,000 poods of oil a day. At the end of 1907 the exploitation of gas was carried on on fifteen plots, occupying an area of 313 dessiatines. There were then eight firms having fifty-seven wells, of which eighteen were in exploitation, twenty in boring, and nineteen inactive.

Boring in Surakhany is carried on by the same methods and with the same kind of instruments as on the other areas. The starting diameter of casings is from 22 to 26 in., although there are some of 30 in., and some others for exploration purposes of 6 to 12 in. The average depth of gas wells is about 1,000 ft. The well No. 9 of the Baku Petroleum Company, deepened to 1,575 ft., has proved petroliferous, and ejected a dark greenish petroleum of specific gravity 0.820 to 0.835, and this fact has destroyed the prevailing opinion that Surakhany was a purely gaseous deposit.

Commencing from 1907 a more or less accurate registration of the production was introduced. During that year there were obtained 4,499,000,000 cubic ft. of gas, 300,497 poods of white oil, and 172,496 poods of dark green oil. During the following years the production considerably developed, and in 1912 there were working there nineteen firms in 155 wells, of which eighty-seven were in boring, and 58,357 ft. were passed.

Petroleum gas in the Surakhany deposit is distributed in several strata. The Baku Petroleum Company has encountered the first gas at a depth of 98 ft., the second at 490 ft., and the third one at 553 ft. Another well of the same company has shown gas at depths of 144, 207 and 329 ft. Usually the upper gas is not abundant, while the lower ones are more and more powerful, with a pressure of over twenty atmospheres. Usually the upper strata are not exploited, as the gas reservoirs are arranged but for high pressures. Boring for gas is connected with great difficulties, among which is that of maintaining in the wells of high levels of water. Powerful outbreaks happen often outside the casings and often spoil the well; stratified water often appears and has to be shut off.

The production of gas at Surakhany during the last seven years was as follows (in equivalent quantities of petroleum):—

				Poods.
1906	...	...	...	5,582,746
1907	...	...	...	7,498,761
1908	...	...	...	4,838,000
1909	...	...	...	5,154,050
1910	...	...	...	1,721,665
1911	...	...	...	2,053,942
1912	...	...	...	1,542,784

The production during the past year was obtained by the following firms:—

		Poods.
Baku Petroleum Company	...	302,624
Benkendorf	...	289,653
Mirzoeff Bros.	...	659,600
Nobel Bros.	...	5,460
Caspian Black Sea Company	...	185,411

From the gas wells the gas is piped over on the oilfields, where it is consumed under boilers and in motors, and also used for domestic purposes—lighting, heating, etc. As can be seen from the first table, the production of gas is now on the decrease, and the Surakhany area is gradually losing as a gas-producing area.

As a petroleum-bearing deposit Surakhany area has its peculiarity. During a long time there was obtained there exclusively white oil, resembling a mixture of light distillates of ordinary petroleum. Apparently, white petroleum represents a filtration product of ordinary petroleum, which under gas pressure has passed through clay and lime into the upper strata. At the rate of penetrating deeper into the inners of the earth, the properties of the petroleum change, its specific gravity rises, its colour becomes darker, and from light yellow passes to reddish-brown and finally dark brown; its flash point descends and its contents of tarry matter increase and altogether the oil from great depth becomes quite like light petroleum from other deposits.

The production of white petroleum is shown in the following table :—

				Poods.
1908	...	...	...	354,027
1909	...	...	...	320,360
1910	...	...	...	229,626
1911	...	...	...	172,914
1912	...	...	...	852,648

The production of the firms during the last year was as under :—

				Poods.
Assadullaef	...	...	...	118,925
Baku Petroleum Company	...	...	...	92,479
Benkendorf	...	...	...	42,578
Caspian-Black Sea Company	...	...	...	21,025
Lux & Gaber	...	...	...	573,952
Rilski Trustees	...	...	...	3,689

Owing to its light gravity, volatility and low flash, the white Surakhany oil is used as fuel in inner combustion motors. Especially large use has it acquired recently in heavy motors.

Dark or black oil has for the first time been obtained at Surakhany in 1908 by the Baku Petroleum Company in small quantity, namely, 277,672 poods; but soon six other firms started producing it with the result that the production rapidly developed, as under :—

				Poods.
1908	...	...	...	277,672
1909	...	...	...	1,692,537
1910	...	...	...	10,187,444
1911	...	...	...	19,723,610
1912	...	...	...	31,436,212

The production of the firms during last year was as follows :—

				Poods.
Assadullaef	...	...	...	1,284,657
Baku Petroleum Company	...	...	...	7,075,155
Benkendorf	...	...	...	8,832,708
Mirzoeff Bros.	...	...	...	1,215,737
Nobel Bros.	...	...	...	3,653,046
Rilski Trustees	...	...	...	768,164
Caspian-Black Sea Company	...	...	...	8,606,745

The dark oil is piped to the main areas from where pure oil, or that mixed with other ordinary petroleum, is directed to the refineries. Recently, Benkendorf has laid a pipeline to the Zikh promontory, where he erected a pumping installation, and the oil is there loaded for Astrakhan.

PATENTS.

Specially contributed by Messrs. EDWARD EVANS & CO., Consulting Engineers, Chartered Patent Agents and Enrolled Patent Attorneys of the United States, of 27, Chancery Lane, London, W.C.
The undermentioned "Applications Published" are all in the stage in which opposition to the grant of patents upon them can be made.

Messrs. EDWARD EVANS & CO. would be pleased to forward a copy of any of the Specifications on request, and on remittance of a P.O. for 1s. to cover cost and postage. They would also be pleased to advise upon the novelty, subject matter, and value of any invention submitted to them by our subscribers.

APPLICATIONS PUBLISHED.

Means for reducing the viscosity of oils to render them suitable for heating and lighting purposes.—John McLeowman Murtrie, of 212, West Regent Street and Isaiah

Robertson, of 25, St. Andrew's Drive, Pollokshields, Glasgow.

No. 18,460 of 1912. This relates to means for reducing the viscosity of oils for use for heating and lighting, which consists in passing the oil from the storage tank to the burner through a pipe having a portion of same formed U-shaped, one limb of the U-bend being connected to the storage tank and having a coil of piping or other heating medium fitted to the other limb and through which steam is passed through the upper to the lower end.

Process for the production of translucent uniformly coloured paraffin.—Jacob Van Rijn Van Alkemade, Pang-

kalam Brandan, Sumatra, Dutch East Indies. No. 18,925 of 1912. This relates to a process for making translucent uniformly coloured paraffin, in which air is removed from the molten paraffin heated to a suitable temperature, the paraffin then cooled to nearly its melting point, air being excluded during the cooling and then cast into suitable shapes.

Process for converting hydrocarbons of higher into those of lower boiling point.—Louis Georg Leffer, Wevelinghoven,

bei Grevenbroich, Germany. No. 19,051 of 1912. This relates to a process for converting hydrocarbons of a higher boiling point into those of a lower boiling point wherein the vapours, in the presence of a circulating current of a permanent gas under pressure, are submitted to a temperature of not exceeding 410° C. and consists in submitting the hydrocarbon vapours to a decomposing temperature in a vessel arranged between the distillation vessel and the dephlegmator or condenser, the vessel being held independently of the distillation vessel.

Apparatus for burning liquid hydrocarbons in the form of a spray.—John Thomas Woodward, of 17, Bird-in-Bush

Road, London, S.E. No. 24,491 of 1912. This relates to a spray burner having its combustion chamber lined with an absorbent non-inflammable material and having a suction oil jet in communication with the oil passage, the orifice of which jet is arranged to obliquely throw a spray of oil on to the non-inflammable surface of the combustion chamber and across the passage of the air blast.

Apparatus for vaporising petroleum and the like.—Albert

Olof Mecher Lofgren, of Sturegatan 15, Stockholm, Knut Johan Holm, of St. Eriksgatan, Stockholm, and Gustaf Vilhelm Vidlund, of Viksberg Rodertelje, Sweden. No. 26,861 of 1912. This relates to apparatus for vaporising volatile fuel and consists in the provision of a main and an auxiliary vaporiser in combination with a burner jet on the auxiliary vaporiser adapted to direct a flame towards a part of the auxiliary vaporiser where the fluid fuel is restricted in its flow.

Hydrocarbon vapour lamps.—Miroslaw Brylinski, 26 and 27,

Place du Nouveau, March aux Grains, Brussels, Belgium. No. 2,454 of 1913. This relates to a hydrocarbon vapour lamp, in which the liquid to be vaporised is kept under pressure and consistency in that pressure is obtained by forcing into a closed reservoir, through the action of the vapour, a portion of the hydrocarbon contained in a heated reservoir, which reservoir communicates, by means of a pipe fitted with a suction valve, with an open supply reservoir.

APPLICATIONS FILED.

Liquid fuel burners.—Midland Heating and Ventilation Company, Ltd., and Arthur Sansome. No. 19,287 of 1913.

Hydrocarbon burners.—Clifford Rea Wassell. No. 19,318 of 1913.

Process for the treatment of heavy hydrocarbon oils.—Thomas Myers. No. 19,391 of 1913.

Atomizers for liquid fuels.—Louis Abbot Sherman. No. 19,663 of 1913.

Production of light hydrocarbons from heavy hydrocarbons.—Stewart Roy Illingworth. No. 19,687 of 1913.

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Anglo-Persian Oil Co., Ltd.—			
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„ 5% Deb. Stock ...	600,000	£100	86-90
Assam Oil ...	310,000	£1	$\frac{5}{8}-\frac{3}{4}$
Baku Russian Petroleum Co.	750,000	10/-	5/0-5/6
Bibi-Eibat Oil Co. ...	312,500	10/-	6/0-7/0
Californian Oilfields...	500,000	£1	6-6½
European Oilfields ...	385,000	10/-	7/0-8/0
Lobitos Oilfields, Ltd. ...	400,000	£1	26/6-27/6
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{5}{8}-\frac{3}{4}$
Pacific Oilfields, Ltd. ...	250,000	£1	$\frac{1}{8}-\frac{3}{16}$
Roumanian Consolidated Oilfields ...	1,750,000	£1	20/6-21/6
Russian Petroleum Co. ...		10/-	3/9-4/3
Schibaieff Petroleum, new Pref. (fully paid) s/s		—	$\frac{1}{16}-\frac{1}{16}$
„ „ new Ord.	575,000 s/s	(fully paid)	13/0-14/0
Shell Transport and Trading	2,500,000	£1	$5\frac{5}{16}-5\frac{3}{8}$
„ „ „	1,200,000 Pref.	£10	$10\frac{7}{8}-11\frac{1}{8}$
Spies Petroleum Co. ...	600,000	10/-	21/0-22/0

RUSSIAN COMPANIES.			
Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	784	787
Caspian Society (Issue 1910) ...	1,000	3,460	3,475
A. I. Mantascheff & Co. ...	250	775	778
Nobel Bros....	5,000	19,750	19,850
Nobel Bros. (Issue 1912) ...	250	1,010	1,015
Russian Naphtha Society ...	100	296	298
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	285	287
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	390	395

SCOTCH PRICES.			
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Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
British Australian Oil Co., Ltd. ...	300,000	£1	2/0
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	38/3
6% Cum. Pref.	100,000	£10	£11½
Burmah Oil, Ord. ...	1,100,000	£1	75/0
„ Pref. ...	250,000	£1	25/6
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	8/0
Mexican Eagle Oil, Ltd., Non. Cum. Pref. ...	\$8,500,000	\$10	45/6
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	36/3
Pref. (£1 paid) ...	100,000	£1	22/6
Premier Oil Ord. ...	2,300,000	£1	9/9
Pumpherstons Min. Oil Co., Ltd. Ord. (17/- paid) ..	110,500	17/-	$5\frac{15}{16}$
6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	8/6
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	73/6
„ „ „ „ B „ Deb. ...	160,000	£100	£153

DUTCH COMPANIES.		
Company.	Quotations (per cent.).	
Dordtsche Petroleum Industrie My., Ord. ...	Aand	187
„ „ „ „ „ Pref. ...	„	187
Royal Dutch Petroleum Co. ...	„	622
Moeara Enim Petroleum Maatschappij ...	„	238
Perlak Petroleum Maatschappij ...	„	52
Sumatra Palembang Petroleum Maatschappij ...	„	232
Zuid Perlak Petroleum Maatschappij, Pref. ...	„	53
Tarakan Petroleum Maatschappij ...	„	106

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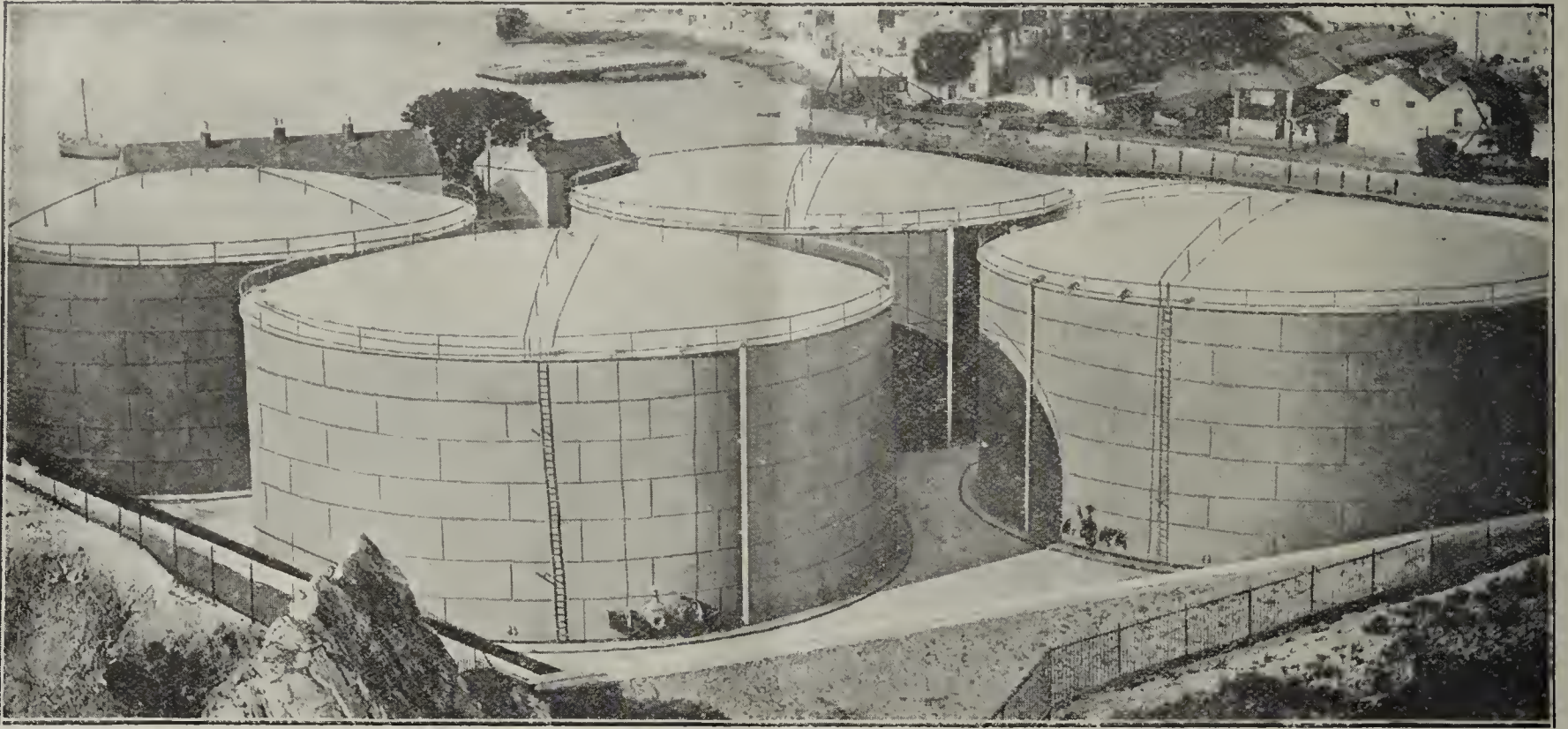
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CHIEF CONTENTS.

	PAGE
Editorial Notes	299
Production of English Companies in Russia	300
"The Hunter" Combination Gas Exhauster and Burner	301
Miscellanea	302
New English Companies	302
The Oilfields of Burma	303
The Surakhany Petroleum Deposits	305
Latest Quotations of Petroleum Shares	308
The Importance of Oil Shale Propositions	311
Classified Imports into the United Kingdom	312
The Maikop Spies Petroleum Company, Ltd.	313
Developments in the Oilfields	314
Oil Refineries in State of Kansas	315
The Drilling of Gas and Oil Wells	317
Notes from the Oilfields	319
The American Oil Market	320
Home and Foreign Market Intelligence	321
Imports of Petroleum Products	322
The REVIEW Shipping List...	323

THE PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, SEPTEMBER 20TH, 1913.

THE IMPORTANCE OF OIL SHALE PROPOSITIONS.

EVIDENCE is not lacking to suggest that we are not only upon the fringe of a boom in oil propositions generally, but that those relating to the mining and distillation of oil shales will at last occupy that important and favoured position which for many years has been denied them.

To us it has for a long time been a matter of not little surprise that while energy has been displayed in the exploitation of petroliferous areas in various parts of the world, the great wealth, which to-day is lying dormant in the widely scattered deposits of oil shale, has for the most part escaped attention. It is true that the Scottish oil shale industry of the Midlothians has for years been actively developed by the several companies operating therein, and the remunerative nature of the ventures stands out as one of the brightest pages in the history of the petroleum industry, but apart

from southern Scotland, the oil shales of the world are to-day practically in their virgin state.

The extended demand for the products of crude oil, however, quite apart from the liquid fuel aspect, which, too, is of great importance in connection with the shale question, is now directing considerable attention to the opening up of new areas, and in this regard oil shale propositions can claim a significance quite their own. At home, as well as abroad, innumerable deposits of oil shale await the hand of the explorer, and the pages of the REVIEW from week to week show how a bounteous nature has placed these deposits in practically every portion of the world.

To-day we hear the cry for Dominion oil—for oil found in the possessions of the Empire—and yet we go searching in all foreign lands for petroliferous territories, forgetful of the fact that in the shale deposits of our own Dominions there is, by proper development, an untold volume of liquid fuel and refined petroleum products. Take Scotland, for instance. Though the Midlothian shale beds have been worked for years, the known deposits in the Isle of Skye are untouched, although it is common knowledge that they are quite as rich as any at present developed, and have the additional advantage of being situated comparatively close to the surface, and therefore would not necessitate the sinking of expensive shafts. In the Midlands, too, oil shales abound. Forty years ago, in Staffordshire, numerous oil shale distilling firms used to mine the shale, receiving from the destructive distillations from twenty-five to fifty-five gallons of crude to the ton, but with the influx of foreign petroleum the industry gradually died out. With the modern methods of distillation, however, and the recovery of those high-priced products, for which there is always a ready market, the working of these deposits at once becomes an attractive proposition, which will some day yield fortunes to the fortunate people interested. The shales of Sussex, too, possess an importance, which, though not appreciated to-day, are bound to claim attention in years to come.

Going oversea, we have Canada, whose vast territories of oil shale still remain in a virgin state, in spite of the fact that the Canadian Government has done all in its power to assist in their development, even to the extent of giving a bounty on the distilled crude oil. In many portions of Canada, the strata are literally one thick seam of oil shale, yet it is only at the time of writing that the deposits are receiving the attention of

capitalists. Of the ultimate success of the development of the Canadian and New Brunswick oil shales, there can be no doubt; the only surprise to us is that a flourishing and most remunerative branch of the petroleum industry has not been established years ago.

During recent years we have heard a great deal of the shales of Australia by reason of the operations of the Commonwealth Oil Corporation, and whatever may be said against this amalgamation of capital, the concern, if not successful, has demonstrated the fact that the Australian shales are remarkably extensive, and under careful management, combined with adequate finance, can be operated upon a highly remunerative basis. The gigantic nature of the programme initiated by the Commonwealth Oil Corporation has so far been the primary cause of the present position of the concern, and not, as might be supposed, the absence of finding prolific oil shale deposits. But out of failure comes success, and a glorious page of history will yet be written of the development of the Australasian oil shales.

Nor have we exhausted the list of countries in which the presence of oil shales has been conclusively proved: we have only mentioned a few of the more important in order to show the significant rôle which oil-shale propositions are bound to play in the future expansion of the world's petroleum industry.

EXPORTS OF PETROLEUM PRODUCTS FROM BAKU.

Statistics for June.

THE total quantity of petroleum products exported from Baku during June amounted to 45,624,413 poods, while the quantity of products left in store at the refiners on August 1st amounted to 49,220,982 poods. The following table shows the quantities of various products exported by rail, on the Caspian Sea, and by road, as well as those left in store:—

		Exported by		In Store on
	Rail.	Caspian Sea.	Road.	August 1st.
	Poods.	Poods.	Poods.	Poods.
Kerosene ...	1,697,750	7,243,737	68,673	6,288,789
Lubricating oil...	837,927	994,575	24,334	1,963,075
Solar oil ...	192,944	56,242	952	1,958,468
Residuals ...	1,455,783	25,904,209	40,912	21,122,945
Crude oil ...	311,096	6,130,860	35,749	16,685,183
Benzine ...	278,583	3,820	4,874	799,185
Other Products...	—	—	—	403,337
Totals ...	4,818,190	40,630,721	175,562	49,220,982

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COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Sept. 8.	From Jan. 1.	Since Sept. 8.	From Jan. 1.	Since Sept. 8.	From Jan. 1.	Since Sept. 8.	From Jan. 1.	Since Sept. 8.	From Jan. 1.	Since Sept. 8.	From Jan. 1.	Since Sept. 8.	From Jan. 1.	Since Sept. 8.	From Jan. 1.
Belgium ..	—	—	28,610	526,923	—	—	—	—	—	20,820	—	120	—	4,400	28,610	563,263
Canada ..	—	—	—	7,040	5,200	38,450	—	—	—	—	—	—	—	—	5,200	45,490
Dutch Indies	—	—	—	—	—	—	—	—	566,000	28,827,450	—	322,740	—	—	566,000	29,150,190
Germany ..	21,080	155,360	44,340	2,313,490	—	600	—	107,120	—	—	—	400	—	4,610	65,420	2,581,580
Holland ..	—	—	320	8,340	—	—	—	—	470,000	5,849,349	—	—	590	—	470,320	5,858,270
Mexico ..	510	4,002,250	—	—	—	—	612,000	1,062,800	—	1,123,800	589,680	11,803,280	—	—	1,202,190	17,392,130
Roumania ..	—	12,856,037	—	—	—	—	—	1,150,000	—	2,981,830	—	9,029,060	—	—	—	26,016,927
Russia ..	—	9,851,130	925,590	11,386,100	—	389,370	—	—	765,000	11,889,350	—	—	—	—	1,690,590	33,515,950
U.S.A. ..	6,940,320	78,138,556	1,412,400	34,167,954	5,260	165,320	27,260	41,877,080	—	15,250,800	—	2,389,730	26,640	739,205	8,411,980	172,728,445
Other Countries	—	80	4,400	112,910	—	480	—	—	—	4,859,240	3,000	3,620	—	1,460	7,400	4,977,790
	6,961,910	105,003,413	2,415,660	48,522,557	10,460	594,220	639,260	44,197,900	1,801,000	70,802,630	592,680	23,548,950	26,640	750,265	12,447,610	293,430,035

THE MAIKOP SPIES COMPANY, LIMITED.

A DISAPPOINTING REPORT.

THE directors' report, which is to be presented at the third ordinary general meeting, to be held next Thursday, covers the financial year ending December 31st, 1912/January 13th, 1913. The net production of crude oil during the year, after making allowances for leakage, etc., amounted to 1,121,185 poods. The stock on hand at January 1st/14th, 1912, was 15,310 poods, which with the net production during the year of 1,121,185 poods made a total of 1,136,495 poods; of this there were sold and delivered 906,177 poods, and used as fuel 219,171 poods, leaving in stock on December 31st, 1912 (o.s.), 11,147 poods.

The crude oil sold and delivered realised Rs. 241,147.21, an average selling price on the oilfields of 26.61 copecs. The production for the six months ending July 13th (n.s.) has amounted to 206,742 poods; the amount realised for the oil sold has amounted to Rs. 40,832.94, an average selling price of 35.41 copecs per poood.

The directors regret that the company's operations have been disappointing.

It will be remembered that the company started with ten plots. Of these, six, viz., Nos. 456, 459, 485, 488, 533A and 533B are in the south-eastern portion of the field; two, viz., Nos. 353 and 369 in the central portion, and two, viz., Nos. 170 and 186 in the north-western portion. Oil has been obtained only in the south-eastern section and in only three of the plots in that section, viz., Nos. 533A, 533B and 488. On plot 533A two wells have been bored. Well No. 1.—After having struck a heavy oil stratum at 887 ft. this well was deepened in search of a second oil stratum. The geological indications having been unfavourable, deepening was abandoned at 1,180 ft. and the well taken into production at 887 ft., from which it gave a production of 246,513 poods. Water having broken into the well, and it having been found impossible to re-shut it off, the well had to be abandoned as an oil producer. It is now used as a water well.

Well No. 2, in which the water was successfully shut off, has given a production of 203,163 poods and is still producing at the rate of about 290 poods per day at a depth of 987 feet. On plot 533B one well was bored which gave a production of 4,216 poods. It having been found impossible to shut off the water there the well was deepened and abandoned at 1,093 ft., the geological indications being unfavourable. On plot 488 five wells have been drilled. Well No. 1 gave a fountain production at 664 ft., which having been exhausted, the well was deepened to 1,730 ft. without meeting further oil sands, and as the geological indications were not favourable, has been abandoned. Total production was 319,916 poods. Well No. 2 began to produce with a fountain in March, 1912, at 743 ft., at the rate of 4,500 poods per day, and has given a pro-

duction of 672,442 poods. It is still producing at the rate of 160 poods per day. Well No. 3 began to produce with 4,500 poods per day in August, 1912, at 845 ft., and has given a total of 353,469 poods. It is still producing at the rate of about 1,100 poods per day. Wells No. 4 and 5 have been bored to the depths of 895 and 846 ft. respectively, but the oil sand which ought to have been encountered at about 800 and 750 ft. respectively not being met with and the geological indications having been unfavourable the wells have been abandoned.

It has been a feature of the wells on this plot that whenever a new well was brought into production the supply from the existing wells simultaneously diminished, and therefore the multiplication of wells did not mean a proportionate increase of production.

On plots 456, 459 and 485 wells have been drilled to the depths of 1,135, 1,981 and 2,640 ft. respectively, the last being the deepest yet bored at Maikop, but no oil stratum has been met with in any of them, and the geological formations being unfavourable work has been stopped. In the central section, where the company's two plots 353 and 369 are situated, wells have been bored to the obligatory depth of 490 ft., and have been temporarily stopped at 511 and 510 ft. respectively. In the north-western section of the field, where the company had two plots, viz., Nos. 170 and 186, no wells were bored, as operations in neighbouring plots showed that no oil was to be expected, and as the company was liable for heavy penalties unless boring was commenced by a certain date it was decided to abandon the plots altogether.

From the above facts it appears:—(1) That oil has been obtained by us only in the south-eastern section of the field; (2) That in this section it has been obtained only in three out of the six plots; (3) That in two out of the three plots where it has been obtained the nature of the ground renders it impossible to make sure of shutting off water, and that drilling therefore is not only costly but uncertain; (4) That in the remaining plot the oil stratum is not continuous, or, in other words, that the ground is pockety, so that here also drilling is uncertain and therefore costly; (5) That in all these plots oil is obtainable only from one stratum, even where it exists; (6) That the production where obtained is not lasting, the wells soon exhausting themselves; (7) That the multiplication of wells does not mean a proportionate increase in production; (8) That there is in none of the six plots any signs of the existence of oil strata at depth; (9) That there are no indications of a true anticlinal in any of the six plots.

In view of the unsatisfactory results obtained and of the opinions expressed by the Company's geological adviser, the directors could not recommend the raising of further capital for continuing development, and

they availed themselves in August last of an opportunity of disposing of the three producing plots to the Maikop Victory Company.

The price arranged for the three plots and for certain buildings, plant and machinery existing on them was £24,000, payable as to £7,000 in cash and £2,500 by a six months' bill, the balance to be discharged by the payment to this Company of the value of 50 per cent. of the gross production from the plots until the full £24,000 has been paid.

The Board consider the price arranged to be satisfactory, taking all the circumstances into consideration. The Company still remains the owner of five plots, viz., 456, 459, 485 in the south-eastern section, and 353 and 369 in the central section. In the three former, boring has been carried to great depths without any oil having been encountered. Drilling has been done on plots 353 and 369, but has only been carried to the depth of 511 ft., and it is possible that with further development results might be obtained in these two plots.

The Board has had under consideration for some time past the question of transferring operations to other fields, and a favourable opportunity of doing so has now presented itself.

The Spies Petroleum Company has acquired interests in several districts under the Terek Government, which have been favourably reported upon by their geologists and on some of which very good indications have been found. The Spies Company has offered this Company a participation, and the directors believe that the proposal gives a good hope of fresh life to this Company, while the co-operation of the Spies Company affords an assurance that work will be conducted on practical and economical lines.

It is anticipated that a considerable part of the machinery, plant, casing and stores owned by the Maikop Spies Company will be suitable for use in the new fields.

The details of the scheme for the formation of a Company to work the plots have not been definitely settled, but in order to enable this Company to participate it will be necessary to make arrangements for the provision of further capital.

Meetings will be called in due course for this purpose and for the consideration of the scheme generally.

The Spies Petroleum Company, which holds a large number of shares in this Company, has signified its willingness to assist in the underwriting of the new capital.

Mr. Schaefer, having taken up an appointment in Russia, tendered his resignation of his seat on the Board on March 28th, last, which the directors accepted with regret.

Mr. G. Grinnell-Milne retires from the Board by rotation, and, being eligible, offers himself for re-election.

OIL-FUEL DESTROYER LAUNCHED.

HIS Majesty's ship "Rosalind," the second of two ocean-going destroyers of the "Daring" class, ordered last year, and sister ship to the "Red Gauntlet," was launched by Messrs. John Samuel White & Co. at East Cowes on Monday. The vessel is 260 ft. long and has a displacement of 935 tons. She is designed for a speed of 32 knots, and oil fuel is used.

DEVELOPMENTS IN THE OILFIELDS.

LATEST REPORTS OF ENGLISH COMPANIES.

Maikop Midland.—Well No. 5, depth 1,500 ft. Well No. 6, installing rig.

Maikop Premier.—Telegram dated September 15th : " (New) Well No. 5, 541 ft. (increase 141 ft.). "

Roumanian Consolidated Oilfields, Ltd.—Production for week ended September 13th, 1,773 tons.

Anglo-Roumanian Petroleum Company, Ltd.—Production for week ended September 13th, 129 tons.

Maisels Petroleum Trust, Ltd. — Production (August), 835 tons. Decrease due to shortage of workmen. Since September 1st work was resumed.

Oil Shale Development Company, Ltd.—Cable advice announces : " Important new discovery of oil-bearing shale on farm Vaalbank, Transvaal. "

Traian Roumanian Petroleum Company, Ltd.—Production of crude oil for week ended September 13th, 368 tons.

Levanovskoe Petroleum Company, Ltd.—Production week ended 13th instant, 3,600 poods (58 tons). Well No. 2, trial baling. Well No. 3, depth 1,050 ft.

Oilfields of Mexico, Ltd.—Well No. 19, 4,460 ft. Well No. 31, 705 ft., under reaming. Well No. 32, 780 ft. slant hole. Well No. 33, almost complete. Production last week, 2,700 barrels.

Pacific Petroleum, Ltd.—Cable, dated September 12th, received from company's representative in California : " Drilling with 4½-in. tools at depth of 3,485 ft. Formation hard, grey shale. Indications favourable. "

Anglo-Maikop Corporation, Ltd.—By cablegram, September 14th, from the manager at Krinskaya : " Well No. 1, depth 1,160 ft. Well No. 2, depth 75 ft. Well No. 3, depth 215 ft. "

Lagunitos Oil Company, Ltd.—Advices received from the general manager at Negritos : " Production first half of September, 1,450 tons. Wells drilling, No. 81, 1,270 ft. ; No. 82, 540 ft. ; Nos. 79 and 80 finished. No. 83 commencing to-morrow. Erecting rig for No. 84. "

Kern River Oilfields of California, Ltd.—The management committee of the subsidiary company of the Kern River Oilfields of California, Ltd. (St. Helens Petroleum Company, Ltd.), report by cable that they have entered into a contract for the sale of 50,000 barrels of oil, to be delivered within one year, from the King Lease (Midway field) at the following rates : Of a gravity of 29° to 30.9° Beaumé 70 cents per barrel ; of a gravity of 31° and upwards Beaumé, 75 cents per barrel. They further report that the 150 barrels per day now being produced from well No. 2 has a gravity of 33° Beaumé.

OIL REFINERIES IN STATE OF KANSAS.

By Mr. A. F. ROBERTSON.

*Reprinted
from the
"Oil and Gas
Journal."*

(Concluded from page 290.)

ONE of the most complete refineries in the State is that of the Great Western, at Erie. This company refines and distributes nearly all of the by-products, including gasoline, naphtha, all grades of kerosene, gas oils, engine oils, fuel oils, lubricants, road oils, distillates and wax. The company has some production around the refinery and has recently brought in three big wells on its leases which are operated under the name of the Midland Oil Company. It has an intake of 3,000 barrels daily and maximum capacity of 7,500 barrels, and markets its products largely through jobbers, though several stations have been established in Kansas. The company has \$5,000,000 capital, its stockholders living in many parts of the United States. J. M. Cameron has been the secretary and manager of the company since its incorporation. The company owns a short pipeline from the refinery to its production in Neosho county.

The Uncle Sam Oil Company has two plants in operation, one at Cherryvale and another at Kansas City, Kansas. It also has a grease plant in Atchison. This was the most spectacular organization in the country, and now has a combined capital stock and bonded indebtedness of more than \$25,000,000. H. H. Tucker, the general manager of the company, made this statement: "We are refining about 400 barrels a day at the Cherryvale plant. We are making gasoline, coal oil and fuel oil. At Kansas City, Kansas, we are doing very little. The Atchison grease plant is running and making money. We are devoting most of our time just now to production." At one time the company had fifty-five distributing stations in Kansas alone, with other stations in Nebraska, Oklahoma, and Missouri. It operated 200 tank cars and 150 road waggon. The Cherryvale plant was working overtime and the plant at Atchison was going night and day. But that has changed, according to Mr. Tucker's statement to the writer. The company still owns and operates its 4-inch pipeline from lot 62 in the Osage to Kansas City, Kansas, a distance of 257 miles, but it is not paying attention to distribution. It owns its crude supply, having properties in Kansas and Oklahoma.

At Moran, in Bourbon county, Kansas, the Eastern Kansas Refining Company has been handling the production of a small pool there. The property is owned by the producers. J. B. Bartholomew is manager and vice-president. Only the lighter products and fuel oil are made and sold. The entire product is sold through agencies. The intake is 200 barrels per day, which is the maximum capacity.

Capt. W. C. Tyrrell, of Tulsa, and John R. Greenlees, of Lawrence, Kansas, have recently purchased the plant of the Kansas City Refining Company at Kansas City, Kansas, and will make extended improvements and additions. This is one of the plants which was shut down for a year and sold under the order of

Court. Captain Tyrrell and Mr. Greenlees both own production in Oklahoma and Kansas, and the output will be sold through the Unity Oil Company of Kansas City, which they also control.

The Sunflower State Refinery, at Niotaze, also got into the courts and was there for three years. The plant was recently sold and the Niotaze Refining Company is now operating it. The new corporation is composed of producers in Chautauqua county, owns a pipeline to the Chautauqua Springs, Peru and Wayside pools and when improvements are made will have a capacity of 3,000 barrels. It has been manufacturing gasoline, kerosene of all grades, fuel oils, lubricants, engine oils, road oils, and had the most complete wax plant in the State.

The Kanotex refinery at Caney, Kansas, is a combination of three small manufactories originally located at Caney, Peru and Longton. It sells gasoline, kerosene of all grades, fuel oils, road oils and engine oils. The plant has an intake of 2,000 barrels, gets its crude from Montgomery county, Kansas, and Oklahoma, and markets the product through agencies. W. T. Munn is the vice-president and general manager, and the general offices are at Caney.

S. S. Osborne, of Chanute, has recently purchased the property of the Petrolia Refining Company, seven miles north of Chanute, and will operate it after October 1st. The plant has been shut down for a year and a half. He declines to make a statement as to what he proposes to manufacture.

The Rollin Refining Company, a close corporation, of which J. J. Hurt, of Chanute, is president and sole owner, is operating a small splitting plant just west of Chanute, selling fuel oil to near-by consumers and marketing the lighter products—gasoline and kerosene—through a jobber.

The Kansas Crude Oil Company is also operating a plant with 150 barrels charge a day on its properties, just outside of Chanute. The company owns its production and is not buying crude. It sells fuel oil and gasoline and two grades of kerosene. The officers of the company live in Illinois.

A very careful investigation into the question of prices proves that there is no sort of agreement among the Kansas refiners, but that prices vary widely. The statement has been freely made by refiners that kerosene of any grade can be purchased in almost any quantity from the refineries at less than the price of crude, and the average price of fuel oil is 52 cents for a barrel of 50 gallons. No general information can be had as to prices of gasoline, but one refiner made the statement that, in his judgment, the price to the dealer was not over 12 cents a gallon on the average. Lower prices than these have been reported from time to time, but lacked verification.

Kansas refiners pay a premium on the crude which is purchased in Oklahoma or outside of their own

production. This premium ranges from 5 to 10 cents, the latter figure being the price paid for the Cushing oil. There are three refineries buying oil at Cushing and paying \$1.13 a barrel as against the \$1.03 quoted by the principal marketing and transportation agencies.

The cost of refining is another question about which no two Kansas refiners agree, because of difference in equipment and conditions. The refineries at Coffeyville, with their own pipelines and by reason of nearness to production, have a distinct advantage over the refineries at Chanute and further up the line, which have to furnish their own cars and pay the freight rate in addition to the premium. The nearest that anybody would come to cost figures was that it was between 4 and 6 cents to get a gallon of refined into the dealers' tanks. All of them agree that there is no profit in kerosene or fuel oil at present prices obtaining in that State, but there is a profit in the gasoline, engine oils, lubricants and road oils.

Financial statements were also out of the question, but it can be stated that the Chanute Refining Company has paid dividends, the National Refining Company has paid dividends, and in like situation are the Cudahy Refining Company and the Petroleum Products Company. The Kansas Co-operative Refining Company, at Chanute, has been making money, but it had a deficit and this has been paid off.

As to refining values of Kansas crudes, the opinions of refiners vary as widely as on other phases of the business. Here is the condensation of what a half dozen people gave the writer as to averages: Gasoline and naphtha, 8 to 10 per cent.; kerosene, all grades, 40 to 50 per cent.; fuel oil, 20 per cent.; engine and lubricating oils, 10 per cent., with a small per cent. of wax and 5 per cent. of asphaltum and coke.

The refiners in Kansas are not discouraged. On the contrary, they believe that present market conditions will result in renewed activity in Kansas, and that abandoned pools will be drilled over and an adequate supply of crude will be available without the handicap of premiums and freight rates from Oklahoma to the plant.

THE OUTPUT OF ROUMANIAN REFINERIES.

Statistics for Six Months.

DURING the first half-year there were treated in the Roumanian refineries 893,915 tons of crude oil, from which 880,156 tons of products were obtained. The following table shows the details of refining deliveries for inner consumption and stocks:—

	Produced in the Refineries. Tons.	Delivered for Inner Consumption. Tons.	Used for fuel in the Refineries. Tons.	In Store on June 30th. Tons.
Benzine ...	207,766	13,966	—	80,424
Kerosene ...	196,309	20,481	—	135,910
Lubricating oil ...	19,703	16,223	—	24,679
Residuals ...	456,378	289,256	70,119	104,808
Totals ...	880,156	339,926	70,119	345,821

ROUMANIAN PETROLEUM EXPORTS DURING JULY.

THE total quantity of petroleum products exported from Roumania during July amounted to 71,525 tons as against 92,063 tons exported during the same period of 1912. The quantities of various products exported to various countries were as under:—

	Crude oil. Tons.	Benzine. Tons.	Kerosene. Tons.	Residuals, Gas Oil, etc. Tons.
England ...	—	10,883	6,651	9,260
Austria ...	552	541	13	—
Germany ...	—	4,993	4,537	69
France ...	—	9,300	5,788	1,262
Egypt ...	—	—	5,393	—
Balkan Peninsula ...	—	27	1,799	581
Holland ...	—	—	—	—
Norway ...	—	—	—	—
Italy ...	—	1,798	2,408	5,659
Totals ...	552	27,552	26,589	16,831

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The Drilling of Gas and Oil Wells. PROPOSED REGULATIONS FOR AMERICA.

By Messrs. O. P. HOOD and A. G. HEGGEM.

*An Informative -
Bulletin by the -
Washington - - -
Bureau of - - -
Mines. - - -*

(Continued from page 267.)

It shall be the duty of the chief well inspector to transmit to the proper county recorder the duplicate of plats, descriptions, applications, and reports sent to him by well operators, and these shall be recorded in a book kept specially for this purpose by the county recorder.

SECTION 8. To enable the well inspector to perform the duties imposed upon him by these regulations, he shall have the right at all times to approach and examine any well in his district, and, with the authority of the State mine inspector, to enter any mine affected, and upon discovery of any violation of these regulations or upon being informed of such violation, he shall institute proceedings against the person or persons at fault, under the provisions of the law provided for such cases.

ARTICLE VI.—ENTRY OF MINE BY REPRESENTATIVE OF WELL OPERATOR.

SECTION 1. When a well is so located that it passes through a mine or near a mine, the well operator may appoint as his representative a mining engineer or other competent person experienced in mining operations, who shall, with the written permission of the chief or district State mine inspector, have the right to enter the mine at such times as will not interfere with the operation of the mine.

ARTICLE VII.—PENALTY FOR NON-COMPLIANCE.

SECTION 1. Any coal operator or well operator who neglects or refuses to comply with the provisions of these regulations, or who violates any of the provisions or requirements thereof, shall be deemed guilty of a misdemeanor, and shall, upon conviction thereof in the court of the county in which the misdemeanor was committed, be punished by a fine or imprisonment at the discretion of the court.

ARTICLE VIII.—INCONSISTENT ACTS REPEALED.

SECTION 1. All acts or parts of acts inconsistent herewith are hereby repealed.

SECTION 2. Each section of these regulations and every part thereof is hereby declared to be an independent section or part of a section, and if any section or sub-section shall for any reason be held unconstitutional, the validity of the remaining sub-section and sections shall not be affected thereby.

The essential features prescribed in the foregoing suggested regulations are :

- (1) Accurate and formal location and recording of wells.
- (2) Co-operation of the several parties interested to obtain a safe location.
- (3) Designation of efficacious methods of casing and protecting wells through coal beds.
- (4) Formal abandonment of wells.
- (5) Safe methods of plugging wells.
- (6) Adequate inspection.

Wells such as water wells, prospecting bore holes, and elevator wells, which may be drilled either within or outside of areas where coal, natural gas, or petroleum exists, do not come under the provisions of the regulations. Though it is believed that such wells in their drilling, operation, and abandonment may be a menace to other property, such as mineral and fresh waters, nevertheless the caring for such a large number of wells makes it desirable to omit for the present such wells in the inspection scheme. To limit the definition of a well to those bore holes exceeding a certain depth would be impracticable, because some

producing wells are found at very shallow depths, in some cases even above relatively shallow coal measures. In hilly country a reasonable limitation as to depth would manifestly give a great advantage to locations in deep valleys as compared with locations on hillsides or hilltops, without in any way changing the relationship of the gas-producing sand and the coal bed.

A limitation of diameter also seems impracticable, because small holes drilled to producing measures might be as much of a menace as larger holes.

Some objection to this definition of a well was urged in the conference because the definition may be held to include holes drilled for prospecting for coal, but it is evident that such holes are not included unless they produce natural gas or petroleum, and if they do so produce, they are manifestly a possible source of danger and should be ranked as any other producing well, and would hence come within the definition of "well" as here used, and consequently would come under the provisions of the proposed regulations.

By well operator is meant the nearest legally responsible party concerned in the well drilled or to be drilled.

By coal operator is meant the nearest legally responsible party concerned in the coal mine penetrated or to be penetrated.

It is the custom of large operators to have extensive maps showing the location of their operations, and in the designation of a new location tracings or reproductions of portions of the general map are available. It is manifestly convenient to have the plat that is required by the regulations of the same scale as the general map, and the chief well inspector should make such regulations as to scale and form of plat as will serve the purposes of the regulations and the convenience of the parties in the State interested.

It will be to the interest of the well operator to provide a casing of suitable weight, dimension, and quality. It was not deemed desirable to prescribe in detail the materials for this purpose.

Complete specifications for suitable cement mortar would include much more than is here given, and such complete specifications for the best work should agree with the specifications of the American Society for Testing Materials. For field work, in which it is often impossible to obtain selected material, considerable leeway for the judgment of the inspector must be allowed.

A proper definition of coal bed received a large amount of discussion and consideration in the conference. To frame such a definition as shall bring about the needed protection to workers in the mines, and at the same time shall not impose an undue hardship on the drilling of the wells, is a difficult task, and such definition must be applied with a large measure of good judgment on the part of the responsible official. To protect by an expensive method a coal bed that will

not be worked before such a well shall have been securely plugged and the formations returned as nearly as possible to their original condition is not the intent of the regulations. The workableness of any particular coal bed depends not only on its depth, its thickness, and its value, but on its location with respect to possible transportation facilities.

The length of life of any well that may be put through such a workable seam of coal is also a variable quantity, and to estimate such a life would require a general knowledge of the field and the probabilities of production in that special locality. That these several variables can be anticipated by a rigid interpretation of law is extremely doubtful, and a large measure of discretion must be allowed in interpreting the intent of the regulations in this respect. It has been proposed that this discretion should be exercised by the State geologist, inasmuch as a knowledge of geological conditions is absolutely necessary in the problem. It has also been proposed that this interpretation and discretion should be exercised by a commission constituted of parties having information and interest in the matter. This discretion may be lodged entirely in the chief inspector prescribed by the regulations, or in the chief mine inspector, or the matter may be so left that in case of dispute a court may render a decision based on the testimony of all parties concerned.

It was the very general opinion in conference that the matter of locating a well should be a formal one, under such regulations as would make the location a matter of record that could in the future be available to any person. It was also the general opinion that so far as possible the several persons interested in the location of a well should mutually agree as to the location, and that having agreed the records of each interested person should be complete and definite. It was also generally agreed that the element of time is especially important in the business of well drilling, and that all reasonable concession should be made by parties other than the well driller to expedite an agreement and the issue of a licence to drill. The intent of the several sections was to permit drilling in as short a time as was feasible.

There was considerable discussion as to just how surveys should be made sufficiently accurate to permit the relocation of an old well, surface indications of which had disappeared. It seemed desirable to make such a survey with reference to section corners or United States geological survey monuments when these were available, but it was pointed out that in many localities permanent monuments of equal value were not to be had, and that the whole matter of boundary lines or corners of plats of ground might be in dispute and in process of legal adjustment. It was also pointed out that in opening a new field in which rapid work would perhaps be necessary, it would be a hardship to be obliged to settle definitely legal matters of boundary and survey, and that the purposes of accurate location could be obtained by allowing well operators to use permanent points on the boundaries of the tract of land on which the well should be located, provided there should be such permanent points. If such permanent points should not be available, it was suggested that permanent monuments might be put up on such real or supposed boundaries by the well operator.

The surveying for this location should be of a high order and performed by engineers or surveyors of recognised standing and ability.

In order that the coal operator shall have an opportunity to make objection to the proposed location, it is required that the well operator shall send to the coal operator a copy of the description and plat that is filed with the well inspector. In most cases the well operator and the coal operator would have been in correspondence on the matter before an application for licence would be made. The duty of filing the description was placed on the well operator rather than on the chief well inspector, in order to save time and make the five-day time limit more reasonable and also make more desirable a previous co-operation of the parties. For the same reason the well operator is required to notify the State coal-mine inspector so that he also may make objection within the time limit of five days.

It is the present practice of organisations working in harmony to exchange plats, and the requirement of Section 4 of Article II. is only an expression of a current good practice.

The well operator, unless fully informed of present and immediately proposed mine workings, may not locate a well in an acceptable place although he may be perfectly willing to do so. In case the well operator is not at once supplied with such a plat of the mine workings, he may reasonably suppose that there is no objection to the location as proposed.

In the great majority of cases the licence to drill can be expected to be issued at once, either because there is no possible complication with mine workings or other interests, or, more likely, because the interested parties have previously conferred and come to an amicable agreement. If such previous agreement has not been arranged, then a period of five days is allowed for the well inspector, coal operator and other interested parties to make formal objection, the lack of which requires the issue of the licence at the end of five days. The five-day period in which to file objections seemed a short time to many of the conferees, and in order to insure five full days of mail service, legal holidays were excluded, and the five-day period was made to date from the receipt of the application by the well inspector. The drillers of wells, however, pointed out that many times the drilling operation was to be carried out under short-time leases, and that the delay of a day or two might be very important and was always a matter of considerable expense. In drilling near the line of the territory covered by a lease it is often of great importance that a well be completed in advance of competing drillers, and no unreasonable artificial obstruction to reasonable enterprise should be interposed. It was believed that the retaining of this seemingly short time would tend to bring about previous agreement on the part of all parties, so that the whole matter would be laid before the well inspector at the time of application for the lease.

(To be continued.)

SITUATION WANTED.

PETROLEUM SPECIALIST. Engineer Chemist, 42 years old, has had 20 years' experience in petroleum refinery management, at present director of the largest refinery in Austria, able to undertake the erection, putting into work, management or reconstruction of large mineral oil refinery. Will accept position in Russia (knowledge of language), Roumania or America. Guarantees economy in management. First-class references.—Reply "K.Z.," PETROLEUM REVIEW, 45, St. Mary Axe, London, E.C.

NOTES FROM THE OILFIELDS.

AMERICAN.

Philadelphia Exports.—The exports of petroleum products from Philadelphia during the present year have totalled 170,000,000 gallons, or 15,000,000 gallons less than they were for the corresponding period of 1912.

Baltimore Exports.—Though this port has lost its cargo oil trade—for no tank steamer has loaded for more than a year from Baltimore—it continues to be an outlet for large quantities of gasoline, lubricants, and other products shipped in barrels or cases.

To Develop in Tennessee.—Indianapolis oil men have recently organised a corporation, with a capital of \$100,000, to develop the oil and gas resources in Tennessee. The corporation has secured leases on about 30,000 acres of land, which are to be immediately developed.

Oil Stocks in California.—The total quantities of oil above ground in the Californian fields at the end of July amounted to 46,600,000 barrels. This figure is larger than what it has been for some time, owing to the record production during July, which exceeded consumption during the month by a quarter of a million barrels.

Californian Producing Wells.—The crude oil production of California is at present derived from 6,035 wells, of which 1,663 are in the Kern River fields and 1,134 in the Sunset-Midway district. The average daily production of the whole of the wells is now approximately 275,000 barrels. Nearly one-half the total production comes from the Sunset-Midway fields, the output there for July being over 3,300,000 barrels.

ROUMANIAN.

Well Colombia.—This well, after recommencing its eruptions, has now increased its yield to 600 tons a day.

Exportation.—The exportation is regaining its former activity, there being a great demand of products for the East.

Production.—The general production is maintained at 5,000 tons a day, the demobilisation not having yet been completed.

Victoria.—This company has decided to increase its capital from 1,600,000 to 2,400,000 francs, by issuing additional 8,000 shares of 100 francs each.

Exports of Roumanian Petroleum to Russia.—Several Russian industrials have arrived in the country in order to conclude contracts for cargoes of petroleum to be exported to Russia.

Astra-Romana.—The production of this company during the week amounted to 1,160 tons a day, of which 983 tons were obtained at Stavropoleos, 105 tons at Bana, 44 tons at Campina, and the rest on the other fields.

The Romana-Americana.—The production of this company during the week amounted to 600 tons a day on the average, of which 550 tons were obtained at Moreni, 20 tons at Baicoi, 20 tons at Bushtenari, and 10 tons at Tetzcani.

Production during August.—The production of some of the chief firms during August was as follows:—Astra-Romana, 36,577 tons; Romana-Americana, 30,918 tons; Orion, 3,896 tons; International, 3,546 tons; Aquila Franco-Romana, 1,361 tons.

Prices.—The prices of crude oil are unchanged. Notwithstanding a considerable increase in the production, the market is bound to remain firm in view of the great demand for oil, both inland and abroad. The prices of products also remain unchanged, benzine especially being in great demand.

Steaua-Romana.—The average production of this company during the past week amounted to 887 tons, of which 520 tons were produced at Campina and 105 tons at Policiori. Regular eruptions were registered from well No. 1 Moreni, 83 tons a day, and well No. 232 Bushtenari-Runcu, 22 tons a day.

Meetings of the Steaua-Romana.—On the 8th and 9th of this month an ordinary and an extraordinary meetings of this company have taken place, and it was decided to distribute a 10 per cent. dividend and to increase the capital of the company from 50,000,000 francs to that of 100,000,000 francs.

RUSSIAN.

Black Sea Bebi-Aibat Company.—This company, the capital of which is 1,400,000 roubles, shows a deficit of 13,592 roubles for the third operating year, 1912. The losses incurred during the two preceding years amounted to 24,361 roubles.

Half-year of Maikop Production.—The production of petroleum on the Maikop Oil Fields during the first half-year amounted to 2,563,846 poods, of which the largest quantities were obtained on plots No. 3, 972,526 poods; No. 30, 589,871 poods; No. 202 433,249 poods; No. 16, 209,193 poods, and No. 170, 154,445 poods.

Maikop Production.—The production of crude oil during the first half of July amounted to 184,247 poods. This production was obtained from 138 wells on thirteen plots. The best production was obtained from plot No. 3, of the Black Sea Company, 70,470 poods. No. 30, British Maikop Company, 33,868 poods, No. 202, Maikop Victory, 25,193 poods. No. 16, Andreas, 18,234 poods. No. 170, Maikop Spies Company, 17,618 poods and No. 21, Maikop Premier Oil Syndicate, 10,053 poods.

DETAILS OF BAKU PRODUCTION DURING JUNE.

THE following are the details of the production of crude oil at the Baku oilfields during June, as published in the latest issue of the *Neftiannoie Dielo* (in poods):—

	Number of Wells in exploitation.	PRODUCTION (in poods).				Average per Well per Day.
		By Baling.	By Spouters.	Casual.	Total.	
Balakhany	946	5,424,176	—	217,987	5,642,163	199
Sabuntchi	1,221	13,825,062	—	151,386	13,976,448	396
Ramany	404	6,058,707	—	58,800	6,117,507	701
Bibi-Eybat	330	7,348,110	222,674	17,793	7,588,547	826
Total	2,801	32,656,055	222,674	445,966	33,324,695	409
Total for June, 1912	2,460	34,453,673	739,007	330,105	34,522,782	485

The American Oil Market.

Saturday, September 6th, 1913.

WITH no further change to be noted in the crude market, the principal development of the week, says the *Oil Paint and Drug Reporter*, has been the receipt of field returns for August. The feature of the high-grade field last month was the completion of a record number of wells, 1,159, of which 312 were dry or gas wells and the new production amounted to 10,485 barrels. As a basis for comparison the following table showing results in the high-grade field for each month this year is appended:—

	Comple- tions.	New pro- duction. barrels.	Dry or gas wells.	Average capacity per oil well.
January ...	704	9,498	229	20.00
February ...	686	9,571	237	21.32
March ...	758	8,324	219	15.44
April ...	883	10,620	232	16.31
May ...	985	9,986	217	13.13
June ...	1,085	12,839	258	15.52
July ...	1,082	10,142	250	12.19
August ...	1,159	10,485	312	12.38
Totals ...	7,342	81,465	1,954	

Of more specific interest is the record of total returns for the eight months of this year, as compared with those of the same period last year. These are indicated in the following summaries:—

	Comple- tions.	New pro- duction. barrels.	Dry or gas wells.	Average capacity per oil well.
Pennsylvania ...	5,086	39,122	1,354	10.48
Lima-Ind ...	730	9,895	98	15.66
Cent. Ohio ...	276	1,365	235	33.29
Kentucky ...	133	1,699	54	21.51
Illinois ...	1,117	29,384	214	32.54
Totals ...	7,342	81,465	1,955	15.12

	Comple- tions.	New pro- duction. barrels.	Dry or gas wells.	Average capacity per oil well.
Pennsylvania ...	3,216	114,150	892	49.12
Lima-Ind ...	350	5,143	54	17.37
Cent. Ohio ...	305	1,965	254	38.53
Kentucky ...	106	1,549	32	20.93
Illinois ...	757	42,028	184	73.35
Totals ...	4,734	164,835	1,416	49.68

The above comparisons are reflective of the disparagement between completions and new production. It will be recalled that the high-grade fields last year were featured by the prolific development in Kanawha county, West Virginia, while the operations so far this year have failed to open a new pool capable of producing 1,000 barrels a day. The fact that the general production has not shown a further slump is attributed to the multiplicity of small wells throughout the old districts, which are making them produce to their full capacity. The well-sustained position of the crude market continues a keen incentive for drilling and wildcat operations are still at their height. A large part of the experimental drilling is credited to new talent and capital, the only opportunity for which was outside of the trend of earlier developments.

In spite of the continued drought and excessive heat, operation in the mid-continent field drilling has been continued on a fairly active scale and heavy leasing operations from the Texas line to Kansas City have been consummated. Even on the prospects of increased production, a reaction to the crude market does

not seem to be feared. Cushing is the leading development of the field and the hot weather seems to have stimulated the output, which is now larger than ever, being estimated at 30,000 barrels a day. One of the week's completions in the pool was rated as a 2,000-barrel well, while another well was reported to have started at the rate of 75 barrels an hour. Kansas continues a field of active prospective drilling. Oklahoma operators have taken up several thousand acres in Morris county on the theory that the producing formation extends into the county.

Refined Products.

The local market for illuminating oil has not attracted the same degree of activity as was previously noted, the principal abatement being in the export movement. This may be attributed to the lack of steamers available for ready shipment in bulk, as contrasted with the conditions of the former week. Total clearances for the current week of both bulk and case oil comprised 9,557,005 gallons, as against 18,696,750 gallons previously.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. Sept. 6.	1913. Sept. 6.
Pennsylvania ...	\$1.60	\$2.50
North Lima ...	1.04	1.39
South Lima ...	0.99	1.34
Indiana ...	0.99	1.34
Illinois, above 30 degrees ...	0.87	1.30
Kansas and Oklahoma ...	0.70	1.03
Humble, Tex. ...	0.75	0.90
Saratoga ...	0.75	0.90
Sour Lake, Tex ...	0.75	0.90
Californian, Coalinga light ...	0.65	0.60
" Kern River heavy ...	0.35	0.35
CANADIAN OIL ...	1.44	1.79

REFINED—FOR EXPORT.

In cents.	Week ended Sept. 6. S.W.	W.W.
	110 test.	150 test.
Bulk, New York ... per gal.	5.00	6.00
Barrels, New York, cargo ...	8.70	9.70
Barrels, Philadelphia ...	8.70	9.70
Cases, New York ...	11.00	12.00
Cases, Philadelphia ...	11.00	12.00

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000 ...	\$11.15
1,000 to 3,000 ...	11.25

REFINED—JOBGING LOTS.

In barrels, pkgs. included.	
130 fire test, S.W. ...	11½
150 fire test, W.W. ...	12
From tank wagons ...	8½-9

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels ...	21
Gasoline, 86 deg. ...	29½

TOTAL EXPORTS.

	Current week.	Since Jan. 1, 1913.	Since Jan. 1, 1912.
	Gallons.	Gallons.	Gallons.
Crude ...	1,088,325	103,969,364	85,667,655
Refined ...	14,378,025	605,592,662	615,528,995
Naphtha ...	4,357,280	72,236,905	101,327,935
Gas oil ...	1,439,860	22,290,370	45,895,770
Fuel oil ...	2,698,500	94,528,960	52,198,540

WORTHINGTON & BOLER,

LIVERPOOL, LONDON & GLASGOW.

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

September 19th, 1913.

The official prices of Refined Petroleum are unchanged as follows:—Roumanian, 8d.; Russian, 8³/₄d.; Galician, 8¹/₄d.; American, 8¹/₂d.; American Water White, 9¹/₂d.

LUBRICATING OILS.

There are no further alterations to report, prices remaining as follows:—

- No. 1 Russian, spot and forward, £12. 2s. 6d.
- American pale, from £9. 12s. 6d.
- American dark, from £11. 2s. 6d.
- American filtered cylinder, from £13. 12s. 6d.

FUEL OIL

is quoted 70s. per ton, in bulk, ex wharf.

GREASE-MAKING OIL.

The current price is 80s. per ton, in bulk, ex wharf.

MOTOR SPIRIT

is quoted 1s. 9d. per gallon, retail, in London for the best quality, and for the second quality 1s. 7d. per gallon.

TURPENTINE.

American Turpentine, after being somewhat higher, is now quoted for spot 30s. 6d.; October/December, 30s. 7¹/₂d.; January/April, 31s. 6d.

LIVERPOOL.

September 18th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8³/₄d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, August 20th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterfly," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
" Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, September 18th.

Oklahoma crude is still quoted at \$1.03 per barrel. Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, September 18th.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, September 16th.

The petroleum prices have remained firm. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, September 16th.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 54¹/₂–54³/₄ copecs per pood spot. Mazout, 51¹/₂–52 copecs. Kerosene, 68¹/₂–69 copecs.

ROUMANIA. September 16th.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including	Francs.
pipe-line charges, per 100 kgs. Bushtenari	7.00–7.20
" " " Moreni	6.00–6.50
" " " Tzintea	4.30–4.60
" " " Policiori	4.25
" " " Bana, 0.850	8.75
Paraffin	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	27.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	24.00–25.00
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	17.50
Residuals, f.o.b. Constanza	...	6.00
Gas Oil...	...	8.00

AUSTRIA. September 16th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 31–50 kronen at Oderberg. Benzine, 690/700, 44 kronen; 750/760, 22 kronen, at Oderberg. Gas oil, 7.00 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, E.C., report under date September 18th as follows:—

The market continues quiet, with prices unchanged as under:—

1c	18 ³ / ₄ × 14	124 sheets	110 lbs.	13/6	per box.
1c	20 × 10	225 "	156 "	19/3	"

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

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FOR THE WEEK ENDED SEPTEMBER 15TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP-TION.	NO. OF GALS.	PORT WHENCE.
Sept. LONDON—				
9	Port Authority	Lub.	4,700	Hamburg
9	"	"	350	"
9	A. E. Smith	"	480	Marseilles
9	S. Capon	"	3,400	Fiume
9	Langley, Smith & Co.	"	10,060	New York
9	Ragosine & Co.	"	11,430	"
9	Grindley & Co.	"	8,000	"
10	Vacuum Oil Co.	"	18,380	"
10	Anglo-American Oil Co.	"	4,000	"
10	Port Authority	"	250	Hamburg
10	Asiatic Petroleum Co.	Benzine	765,000	Novorossisk
11	Anglo-Mexican Petroleum Products Co.	Gas	612,000	Tampico
11	"	Fuel	589,680	P. Mexico
11	Schliemann Oil, etc., Co.	Lub. Oil and Gr.	2,100	Hamburg
11	E. G. Boize	Lub. Gr.	150	"
11	Lubricating & Fuel Oils Co.	Lub.	924,390	Batoum
11	Anglo-American Oil Co.	Lamp	2,354,580	New York
12	C. A. Wills	Fuel	3,000	Burma
12	British Petroleum Co.	Lamp	2,219,900	Port Arthur
12	Foster, McClellan & Co.	Lub.	50	New York
12	Anglo-American Oil Co.	"	613,300	"
13	B. Jacob & Sons	"	10,400	N. News
13	F. Chiesman & Co.	"	17,480	New York
13	Port Authority	"	1,000	Hamburg
15	"	"	3,740	"
15	Valvoline Oil Co.	"	5,000	New York
15	J. W. Cook & Co.	"	35,360	Philadel.
15	"	Lub. Gr.	400	"
15	Bramwell, Fern & Co.	Lub.	3,030	"
15	Snowdon, Sons & Co.	"	4,070	"
15	Trinidad Lake Asphalt Co.	"	5,200	"
15	Anglo-Mexican Petroleum Products Co.	Lamp	510	P. Mexico
LIVERPOOL—				
9	Fellows, Morton & Clayton	Lub.	1,830	Philadel.
9	W. B. Dick & Co.	"	5,000	New York
9	Dee Oil Co.	"	9,600	Antwerp
9	Meade-King, Robinson & Co.	Lub. Oil and Gr.	26,200	Baltimore
10	"	Lub.	10,400	"
10	"	"	4,000	Antwerp
10	Dee Oil Co.	"	2,000	Hamburg
10	Liverpool Warehousing Co.	"	1,200	New York
10	Anglo-American Oil Co.	"	32,650	"
10	"	"	40,000	Baltimore
10	Dee Oil Co.	"	2,680	"
10	A. Hopps & Sons	M. Colza	5,200	"
10	"	Lub.	21,280	"
11	Pickford's	Lub. Oil and Paste	290	Hamburg
11	Bowring Petroleum Co.	Lub. Gr.	60	"
11	Worthington & Boler	Lub. Resid.	2,600	Montreal
11	"	Lub.	4,000	Philadel.
11	Bowring Petroleum Co.	"	2,750	"
11	Vacuum Oil Co.	"	1,580	"
11	E. Harrison & Co.	"	4,000	"
11	Meade-King, Robinson & Co.	"	24,760	"
11	"	M. Colza	11,960	"
11	W. B. Dick & Co.	Lub.	11,000	"
11	Anglo-American Oil Co.	"	24,600	"
11	Crew, Levick & Co.	"	40,250	"
11	"	Lub. Gr.	220	"
11	"	Lub. Resid	5,260	"
12	A. Hopps & Sons	"	2,600	Quebec
12	Bramwell Fern & Co.	Lub. Gr.	430	Philadel.
11	American Line	Lub.	2,480	"
12	Meade-King, Robinson & Co.	Benzine	50,000	Rotterdam
12	American Line	Lub. Gr.	130	Philadel.
12	Anglo-American Oil Co.	Lub.	12,000	New York
13	Dee Oil Co.	"	2,600	Philadel.
15	Bennett's Haulage, etc., Co.	"	1,800	"
15	Anglo-American Oil Co.	"	37,000	New York
15	Vacuum Oil Co.	Lub. Oil and Gr.	28,920	"
BARROW—				
11	Asiatic Petroleum Co.	Spirit	420,000	Rotterdam
BRISTOL—				
9	E. Stock & Sons	Lub.	120	Hamburg
9	Pickford's	"	670	Antwerp
10	Asiatic Petroleum Co.	Benzine	566,000	Singapore
10	B. Perry & Sons	Lub. Gr.	120	Hamburg
11	H. Pritchard & Co.	"	130	"
11	E. Stock & Sons	Lub.	320	"

DATE.	PORT AND IMPORTERS.	DESCRIP-TION.	NO. OF GALS.	PORT WHENCE.
Sept. BRISTOL—				
12	Pickford's	Lub. Oil and Gr.	1,410	Hamburg
12	Colthurst & Harding	Lub.	240	"
13	C. Hill & Sons	"	20,700	New York
13	"	M. Colza	6,000	"
13	Ford & Canning	Lub.	19,210	"
13	"	M. Colza	800	"
15	H. Matthews & Co.	Lub.	560	Antwerp
15	H. Pritchard & Co.	"	120	"
CARDIFF—				
15	Bristol Steam Navig. Co.	Lub. Oil and Gr.	800	"
GOOLE—				
23/7	Goole Steamship Co.	Lub.	7,660	Hamburg
8	"	"	900	"
GRIMSBY—				
9	J. Sutcliffe & Son	"	900	Antwerp
HARWICH—				
9	Great Eastern Railway	"	80	Hook
11	"	"	80	Antwerp
13	"	"	280	"
15	"	"	160	"
HULL—				
8	Wilson's & N. E. Railway	"	1,000	"
9	"	"	4,000	Hamburg
11	"	"	440	"
11	"	"	1,600	Antwerp
11	T. Wilson, Sons & Co.	"	240	Riga
13	Hull & Netherlands Steamship Co.	"	240	Rotterdam
13	T. Wilson, Sons & Co.	"	20,520	New York
15	W. Gilyott & Co.	"	20,760	"
15	Wilson's & N. E. Railway	"	240	Antwerp
MANCHESTER—				
11/8	British Petroleum Co.	Gas	27,260	Port Arthur
9	Liverpool Storage Co.	Lub.	15,370	New York
9	Anglo-American Oil Co.	"	207,210	"
9	J. T. Fletcher & Co.	"	840	Ghent
10	W. Hodgson & Co.	Lub. Gr.	40	Antwerp
10	J. T. Fletcher & Co.	Lub. Oil and Gr.	840	"
MIDDLESBROUGH—				
10	E. Harris & Co.	Lub.	400	Antwerp
NEWPORT—				
10	M. Jones & Co.	Lub. Gr.	80	"
NEWCASTLE—				
9	P. H. Matthiessen & Co.	Lub.	520	Bergen
10	Tyne-Tees Steamship Co.	"	4,480	Hamburg
10	"	"	400	Ghent
10	"	"	120	Hamburg
PLYMOUTH—				
15	Bristol Steam Navig. Co.	Lub. Gr.	750	Antwerp
SWANSEA—				
13	Burgess & Co.	"	140	Hamburg
GLASGOW—				
9	Clyde Shipping Co.	Lub. Oil and Gr.	6,350	Antwerp
10	Donaldson Bros.	M. Colza	2,680	Baltimore
10	Anchor Line	Lub.	2,200	New York
15	"	"	10,010	"
GRANGEMOUTH—				
6	Jas. Rankine & Sons	"	120	Antwerp
12	W. G. Yooll & Co.	Lamp	8,000	Hamburg
LEITH—				
9	G. Gibson & Co.	Lub.	200	Antwerp
10	Jas. Cormack & Co.	"	960	Riga
11	Jas. Currie & Co.	"	7,200	Hamburg
11	W. G. Yooll & Co.	Lamp	4,360	"
13	G. V. Turnbull & Co.	Lub. Oil and Gr.	10,470	Philadel.
15	Jas. Currie & Co.	Lub.	2,000	Hamburg
15	W. G. Yooll & Co.	Lamp	4,360	"
15	"	"	4,360	"
BELFAST—				
10	Anglo-American Oil Co.	"	944,530	Philadel.
12	J. C. Pinkerton & Co.	Lub. Oil and Gr.	420	Hamburg
15	"	Lub.	180	Antwerp
DUBLIN—				
9	Anglo-American Oil Co.	Lamp	1,421,310	Philadel.
Deduct—			12,447,610	
HULL—				
27/8	T. Wilson, Sons & Co.	Lub.	2,400	Bari
			12,445,210	

From Lloyd's

SEPTEMBER 18TH, 1913.

THE "REVIEW" SHIPPING LIST.

The following abbreviations are used in this table:—L. Left. Pd. Passed. Arr. Arrived. Sp. Spoken. T. Trading. Cl. Cleared
The Anglo-American Co.'s vessels marked thus (*). The Anglo-Saxon Co.'s tankers thus (Δ). Messrs. Lane & Macandrew's thus (□).

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
ADORNA	San Francisco	Iquique	Arr. Sept. 10	DANUBIAN □	Tyne	Port Arthur.	Pd. Dunnet Hd.
AMERICAN	New York ...	Antwerp.....	Arr. Sept. 7. In	DAYLIGHT (Br. Bq.)	Philadelphia.	Hiogo	Sept. 12
APPALACHEE*	London	New York ..	port Sept. 16				Arr. May 1. In
APSCHERON	Kustendje ...	Genoa	100 miles S. of				port July 12
ARAL			Brow Hd.				for E. Coast
ARAS			Sept. 5	DELAWARE*	Barrow	Philadelphia.	United States
ARCA	Philadelphia.	Rotterdam ...	Pd. Dardanelles	DELAWARE SUN	Philadelphia.	Sabine.....	Arr. Sept. 15
	Sabang &	Rotterdam ...	Sept. 16	(American Schooner)			231 miles W. of
	Portishead	Barrow	Arr. Sept. 14				Jupiter
ARTHUR VON			L. Sept. 10	DERBENT	Tyne	Batoum	August 25
GWINNER			L. Portishead				Pd. Gibraltar
			Sept. 17	DEUTSCHLAND	New York ...	Stockholm ...	Sept. 15
ASHTABULA*	San Francisco	Callao	Launched Eins-	DIAMANT	Philadelphia.	Aarhus	L. Sept. 11
ASTRAKHAN	Philadelphia.		warden Dec. 24.	EDWARD L.			L. Sept. 12
AUREOLE	Antwerp.....	Norfolk, Va..	Since complet'g	DOHENEY			Launched Tyne
			Arr. ab't Sept. 2				August 20. In
AZOV	San Francisco	Talara Bay...	L. Sept. 14	EL LOBO	Payta	San Francisco	port Sept. 9
BAKU STANDARD...	Hamburg ...	Braila	Pd. Lizard	EL SEGUNDO	Astoria	San Francisco	Arr. Sept. 15
			Sept. 9	EL TORO	Batoum	Constanti-	Arr. August 7
BALAKANI □	Philadelphia.	Port Arthur.	L. Sept. 6			nople	Arr. Kustendje
BATOUM	Port Victoria	Tyne	Pd. Constanti-	ELAX Δ	Singapore ...	Soesoe.....	Sept. 12
BAYONNE	Batoum &	Genoa	nople Sept. 14	ELISE MARIE	Baton Rouge	Malmö	Arr. Sept. 15
	Savona		L. Sept. 8				L. Norfolk, Va..
BEACON LIGHT	Tyne	Port Arthur..	Arr. Sept. 11	EMANUEL NOBEL...	Batoum	Antwerp.....	Sept. 6
			Arr. August 23	ENERGIE			Arr. Sept. 15
BLOOMFIELD	ThamesHaven	Tuxpan	Pd. Sand Key	ERIVAN	Tuxpan	New York ...	Arr. Sept. 8
			Sept. 16	ESTURIA	Genoa	Batoum	Cl. Sept. 12
BORJOM.....	Batoum	Alexandria...	Pd. Lizard	EUPLECTELA Δ	Zanzibar.....	Colombo	L. Sept. 13
			Sept. 3		Plymouth ...	Kustendje ...	Pd. Constanti-
BRILLIANT (Br. Bq.)	Philadelphia	Kobe	Arr. Sept. 3. In	EXCELSIOR	New York ...	Hamburg ...	nople Sept. 16
BRILLIANT	Philadelphia	Copenhagen.	port Sept. 17	F. A. TAMPLIN	P. Mexico ...	London	Arr. Sept. 12
BRITISH SUN	Port Arthur.	London	Arr. August 10	FRANCE MARIE...	Port Arthur.		L. Sept. 10
			Arr. Sept. 15	(Belgian Ship)			L. Sept. 5
BROADMAYNE	Tyne	New York ...	L. Newport	GEESTEMUNDE	New York ...	Tampico.....	L. Sept. 1
			News Sept. 10	GENESSE*	London	Philadelphia.	Arr. Sept. 10
BUFFALO	Shanghai ...	San Francisco	Pd. Dunnet Hd.	GEORGIAN PRINCE		Philadelphia.	Arr. Sept. 16
BULLMOUTH Δ	Balek Pappan	Shanghai ...	Sept. 17	GOLDMOUTH Δ	Cardiff	Batoum	Arr. Sept. 13
BURGERMEISTER	Stettin	New York ...	Sept. 13	H. C. HENRY.....	Amsterdam ..	Seattle	Arr. Port San
PETERSEN			Sept. 13	HAGEN	Hamburg ...	Kiel.....	Luis Sept. 17
C. A. CANFIELD* ...	Tampico.....	Sabine.....	Arr. Sept. 7	HAINAUT (Barge) ...			Arr. July 25
CALCUTTA (Br. Bq.)..	San Francisco	Yokohama ...	Arr. ab't Sept. 4				T. between
CAMILLO	Balek Pappan	Gibraltar ...	Arr. Malta	HARPORT	San Francisco	Tocopilla ...	Tampico and
			Sept. 17				Aransas Pass
CAPTAIN A. F.			T. United	HARRY	New York ...	San Juan ...	Arr. Sept. 6 and
LUCAS			States, Pacific	LUCKENBACH			L. Sept. 7 for
CARDIUM Δ	Rotterdam ...	Tyne	In port Sept. 16	HARRY	Newport	New York ...	Port Costa
CARPATHIAN □	New Orleans	Sunderland ..	L. Newport	WADSWORTH*	News		L. August 23
			News Sept. 13	HELIOS	Philadelphia.	Copenhagen..	Arr. July 31. In
CAUCASIAN □	Goole &	Gulfport ...	L. Galveston				port Sept. 6
CHARLOIS.....	Rotterdam ...	Sabine Pass..	Sept. 15	HERA	Novorossisk..	Brunshausen.	Pd. Delaware
			Arr. Norfolk, Va.,				B'water Sept. 3
CHATHAM.....	Port Tampa.	Tuxpan	Sept. 15	HERBERT G. WYLIE	Galveston ...	Tampico.....	Pd. Sagres
CHESTER	Antwerp.....	New York ...	L. Sept. 3	HERMIONE	Port Victoria		Sept. 14
			Pd. Scilly				L. Sept. 6
CHEYENNE	Savona	Novorossisk..	Sept. 16	HESPERUS	Campana ...	Taltal	Pd. Dover
CIRCASSIAN			L. Sept. 12	HORLEY	New York ...	Tampico.....	Sept. 13
PRINCE			T. W.C. South	HOTHAM NEWION	Zeebrugge ...	Hull	L. Sept. 15
CITY OF EVERETT	New York ...	Tampico.....	America	HYRCANIA	London	New Orleans.	L. Sept. 7
			71 miles N. of				L. Sept. 17
CLAM Δ	Kustendje ...	Hull	Diamond Shoal	ILLINOIS	New York ...	Hamburg ..	Pd. Lizard
			Light Sept. 5				August 30
CLEARFIELD	London	Tyne	Pd. Dardanelles	IMPEROYAL	St. John, N.B.	Quebec	Arr. Sept. 13. In
CLIO.....	New York ...	Swinemunde	Sept. 12				port Sept. 16
			Arr. Sept. 17	IMPOCO	Pillau	Philadelphia.	Arr. June 3
COMANCHEE	London	New York ...	Pd. Butt of	IOANNIS COUTZIS...			Arr. Sept. 8
CONCH Δ	Abadan	Suez	Lewis Sept. 16	IROQUOIS* (Towing	New York ...	London	On Govt. Service
			Arr. Sept. 17	Barge Navahoe)			L. Sept. 6
CONRAD MOHR	Philadelphia.	Bergen	Pd. Perim	J. B. AUG. KESSLER	Rangoon.....	Port Said ...	Pd. Perim
			Sept. 13				Sept. 17
CORDELIA	San Francisco	Taltal	Pd. Delaware	JULES HENRY	Marseilles ...	Rotterdam ...	Arr. May 24. In
			B'water Sept. 9	(Fr. Bq.)			port Sept. 16
COWRIE Δ	San Francisco	Tientsin	L. Port San Luis	JUNO	Palembang...	Miri..	L. Sept. 10
CURRIER ...	Matanzas ...	Boston.....	August 29	KANAKUK	San Francisco	Saigon	Arr. ab't Aug. 25
			L. August 27		& Hong Kong		
CYMBELINE	New York ...	Rouen.....	28 miles S. of	KASBEK.....	Bilbao		Pd. Dardanelles
CZAR NICOLAI II....	Hamburg ...	Batoum	Nantucket				Sept. 16
			Sept. 8	KIOWA	Copenhagen..	Mississippi...	Pd. Dover Sept. 2
DAGHESTAN	New York ...	Marseilles ...	Arr. Sept. 15	KIYO MARU.....	Kobe	Honolulu ...	Arr. Sept. 4
			Pd. Dungeness	KOMETA	Kustendje ...		Pd. Gibraltar
			Sept. 7				Sept. 11
			L. Sept. 5	KREMLIN	Batoum	London	Arr. Sept. 14

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
KURA	Dantzig	New York ..	Arr. Sept. 8	ROSALIND	Tyne	Baton Rouge	Arr. New Orleans Sept. 12
LA CAMPINE	Antwerp.....	New York ..	Arr. Sept. 14	ROTTERDAM	Rotterdam ..	New York ..	L. Sept. 14
LA FLANDRE	Antwerp.....	Philadelphia.	Pd. Lizard Sept. 13	ROUMANIAN □	Cardiff	Sabine.....	Pd. Fastnet Sept. 12
LA HESBAYE	Antwerp.....	New York ..	Arr. Sept. 16	ROUMANIAN PRINCE	Tampico	Baltimore ..	L. Sept. 12
LACKAWANNA*	Manchester..	New York ..	Arr. Sept. 8	RUSSIAN PRINCE	—	New York ..	Arr. Sept. 17
LE COQ □	New York ..	Cette	L. Sept. 13	SALAHADJI Δ	Batavia	—	L. Sept. 17
LUCELLUM	Port Arthur..	Portland.....	Arr. Sept. 17	SAMOSSET	Bombay	Singapore ..	Arr. ab't Sept. 8
LUCERNA	Hamburg ..	Kustendje ..	Arr. Sept. 11	SAN ANTONIO.....	—	—	T. Mexican Coast
LUCIGEN	Port Arthur..	Portsmouth..	Pd. Lizard Sept. 17	SAN BERNARDO ...	—	—	T. Mexican Coast
LUCILINE □	Tyne	New York ..	Pd. Cape Wrath Sept. 8	SAN CRISTOBAL	—	—	T. Mexican Coast
LUMEN	Philadelphia.	Marseilles ..	L. Sept. 10	SAN DUNSTANO.....	Puerto Mexico	London	L. Sept. 9
LUTETIAN □	Rouen.....	Tyne	Arr. Sept. 8. In port Sept. 16	SAN EDUARDO	Manchester..	Tuxpan	Pd. Sand Key Sept. 13
LUX □	New York ..	Gijon	L. Corunna Sept. 16	SAN FRATERNO.....	Tuxpan	Bahia Blanca	L. Sept. 12
LUZ BLANCA	Tyne & Amsterdam	Seattle	Arr. St. Vincent, C.V., Sept. 16	SAN GREGORIO	Rotterdam ..	New York ..	Pd. Dungeness Sept. 17
MAKKAVEI	Alexandria..	Novorossisk..	Cl. Constantinople Sept. 8	SAN RICARDO	Tuxpan	New York ..	L. Sept. 14
MANNHEIM	Hamburg ..	Philadelphia.	Arr. Sept. 17	SAN SILVESTRE.....	Belfast	New York ..	Pd. Fastnet Sept. 14
MARGARETHA	Philadelphia.	Barrow	Cl. Sept. 6	SAN TIRSO	—	—	Launched Tyne Aug. 20. In port Sept. 16
MASCONOMO	San Francisco	Muroran	L. August 8	SANTA RITA	Victoria, B.C.	Port San Luis	Arr. August 26
MASSASOIT	Bombay	Mi-ike.....	L. Singapore August 20	SARANAC*	Singapore ..	Balek Pappan	Arr. Sept. 17
METEOR.....	London	Batoum	L. Sept. 11	(now named Satanta)	—	—	—
MEXICAN PRINCE..	Moji	Balek Pappan	Arr. Sept. 14	SAXOLEINE	La Pallice ..	Philadelphia.	Arr. Sept. 16
MIJDRECHT	Hamburg ..	Rotterdam ..	Arr. Sept. 11. In port Sept. 16	SEBASTIAN	—	—	Launched Dundee April 24, since complet'g
MINA BREA.....	Callao	Talara.....	L. August 15	SEQUOYA	San Francisco	Calcutta	Arr. ab't Sept. 5
MIRA	Venice	New York ..	Pd. Gibraltar Sept. 18	SERVIAN □	Port Arthur..	Avonmouth..	L. Newport News Sept. 8
MITRA	Singapore ..	Gibraltar ...	L. Sept. 15	SILVIA	Tyne	Port Arthur..	Pd. Prawle Pt. Sept. 13
MOHAWK*	Mexico	New York ..	Arr. June 25. In port Sept. 6	SIOUX.....	New Orleans.	Tampico	Cl. Sept. 8
MUREX Δ	Tarakan	Shanghai ...	Arr. Sept. 14	SIRIUS (Ger.)	Baton Rouge	Vallo	Pd. Butt of Lewis Sept. 18
NARRAGANSETT ..	London.....	New York ..	70 miles W. of Bolt Head Sept. 17	SOCONY	Tampico.....	New York ..	Arr. July 28. In port August 23
NATICA	Cardiff.....	Malta	L. Sept. 16	SOYO MARU.....	Bombay	Calcutta.....	L. August 25
NEKO	Hamburg ..	Leith	Arr. July 6. In port Sept. 16	SPLENDOR	Genoa	New Orleans.	Arr. Sept. 8
NELSON	Guanica.....	New Orleans	Arr. Aug. 22. In port Sept. 7	STANDARD	New York ..	Tuxpan	Pd. Sand Key Sept. 3
NEW YORK*	New York ..	Rotterdam ..	Pd. Beachy Hd. Sept. 17	STROMBUS Δ	London	Rangoon.....	Arr. Colombo ab't Sept. 15
NIAGARA	Shanghai ...	San Francisco	Arr. Honolulu ab't Sept. 10	SULTAN VAN LANGKAT Δ	Singapore ...	Balek Pappan	L. Sept. 16
NORMAN BRIDGE ..	New York ..	—	L. August 30	SUNLIGHT (Br. Bq.)	Macoris	Flushing ...	Arr. Sept. 11
OBERON.....	Tocopilla ..	San Francisco	Arr. August 27	SURAM	Antwerp.....	Norfolk	Pd. Lizard Sept. 16
OCEAN	Sabine.....	Amsterdam .	Arr. Sept. 14	SUWANEE*	Tyne	Philadelphia.	Pd. Nantucket Sept. 17
OILFIELD	Philadelphia.	Venice ...	Pd. Delaware Sept. 5	TECUMSOH	New York ..	Tampico	Pd. Sand Key Sept. 8
ORIFLAMME □	Tyne	Philadelphia.	Pd. Dunnet Hd. Sept. 15	TELENE Δ	Novorossisk..	Sabang	L. Colombo Sept. 12
OSAGE	New York ..	Savona	L. Sept. 4	TEREK	Sabine.....	Foynes	L. Newport News Sept. 15
OTTAWA*	Sunderland	New Orleans.	Pd. Lizard Sept. 12	TEXAS	Antwerp.....	Port Arthur.	Arr. August 10
OURAL	St. Louis du Rhone	Kustendje ..	L. Sept. 17	TIFLIS	Rouen.....	Philadelphia.	Arr. Sept. 12
PATELLA Δ	Gemsah	Colombo.....	Pd. Perim Sept 5	TONAWANDA*..	Sabine.....	London	L. Norfolk, Va., Sept. 5
PAUL PAIX.....	Swansea	New York ..	L. Sept. 5	TRINCULO.....	Port San Luis	San Francisco	L. August 30
PAULA	New York ..	Dantzig	L. Sept. 8	TRINIDADIAN.....	Tampa	Tuxpan	40 miles S.W. of Egmont Key Sept. 3
PAWNEE	Tyne	New York ..	Pd. Dunnet Hd. Sept. 7	TRITON	Hamburg ...	Baton Rouge	Off the Wight Sept. 15
PECTAN	Antofagasta..	San Francisco	Arr. Sept. 7	TROCAS Δ	Singapore ...	Madras	L. Sept. 8
PENNOIL	Port Arthur..	Rotterdam..	Arr. Sept. 15	TURBO	Cardiff	Novorossisk..	Sailed from off Malta Sept. 18
PETROLEINE	Bordeaux ...	New York ..	Arr. Sept. 17	UNCAS	Calcutta	Singapore ...	Arr. ab't Sept. 8
PETROLEUM	Portland... ..	New York ..	Arr. Sept. 6	VEDRA	New Orleans.	Hamburg ...	L. Norfolk Sept. 13
PHOEBUS	Junin	Antofagasta..	L. Sept. 10	VILLE DE DIEPPE (Norwegian Barque)	La Pallice ...	Philadelphia.	L. August 26
PINNA □	New Orleans.	London	Arr. Sept. 14	VITRUVIA.....	—	—	Launched Clyde July 12, since completing
PONUS	Tientsin	San Francisco	L. August 28	VOLCANUS	Palembang...	Singapore ...	Arr. Sept. 13
POTOMAC*	New York ..	—	90 miles S. of Brow Hd. Sept. 17	VOLUTE Δ	Hong Kong...	Balek Pappan	L. Sept. 14
POWHATAN	Calcutta	Hong Kong..	L. August 22	WABASHA.....	San Francisco	Yokohama...	Arr. ab't Sept. 12
PROMETHEUS.....	Baton Rouge	Campana & Callao	L. Port Eads August 19	WANETA (lt. Impoco)	New Orleans	Tampico	L. Port Aransas August 29
PRUDENTIA.....	Maurer	Trinidad... ..	Arr. Sept. 8	WASHINGTON	Salonica	Kustendje ..	L. Smyrna Sept. 14
PURELIGHT	Tyne	Philadelphia.	Arr. Sept. 16	WEEHAWKEN	Batoum	Dunkirk.....	Arr. Sept. 10
QUEVILLY (Fr. Bq.)	Rouen.....	New York ..	L. Havre Aug. 27	WILLIAM F. HERRIN	Monterey ...	Portland, O..	190 miles N. of San Francisco August 20
RADIOLEINE II. ...	Marseilles & P. Arthur, Tex.	New Orleans	Arr. Sept. 7	WILLKOMMEN	New York ...	Stockholm..	Pd. Dunnet Hd. Sept. 10
RANELLA	Cardiff	Malta	L. Sept. 13				
RENDOVA (Br. Bq.)	New York ..	Seville	Arr. Sept. 8				
RION	Copenhagen & Immingham	Philadelphia.	Arr. Sept. 12				
ROCK LIGHT □	Port Arthur (Tex.)	London & Grangemouth	L. Sept. 15				
ROMANY Δ	Thames Haven & Plymouth	Novorossisk..	Pd. Lizard Sept. 14				

The Petroleum Review Directory.

For the insertion of Name and Address in this Directory the charge is 26s. per annum (52 insertions); additional headings 5s. each per annum, payable in advance.

AIR COMPRESSORS.

Hughes & Lancaster, 16, Victoria Street, S.W.

AUTOMATIC CASK FILLERS (CRAWFORD'S).

Hatch, Geo., Ltd., 20-21, Queenhithe, Upper Thames Street, London, E.C.

BELTING MANUFACTURERS.

Willcox, W. H., & Co., 32 to 38, Southwark Street, S.E.

BOILERS.

Marshall, Sons & Co., Ltd., Britannia Works, Gainsborough.

BORING TOOLS.

Deep Well Tool and Boring Co., Ltd., St. Albans.
Galizische Karpathen Petroleum-Actiengesellschaft,
Glinik Maryampolski, Galicia, Austria.

Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.
Oil Well Supply Co. (Pittsburgh), Dashwood House,
London, E.C.

Thom, John M., Patricroft, near Manchester.

Trauzl & Co., Vienna.

BUILDINGS.

Boulton & Paul, Ltd., Norwich.

CHEMICALS.

Spencer, Chapman & Messel, Ltd., 36, Mark Lane,
London, E.C.

DRILLING MACHINERY.

Deep Well Tool and Boring Co., Ltd., St. Albans.
Fraser & Chalmers, Ltd., 3, London Wall Buildings,
London Wall, E.C.

Marshall, Son & Co., Ltd., Britannia Works, Gainsborough (Boilers and Steam Engines).

Oil Well Supply Co. (Pittsburgh), Dashwood House,
London, E.C.

Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.

FLEXIBLE WIRE-BOUND HOSE.

Willcox, W. H., & Co., Ltd., 32 to 38, Southwark Street, S.E.

HAND PUMPS.

Hatch, Geo., Ltd., 20-21, Queenhithe, Upper Thames Street, London, E.C.

Willcox, W. H., & Co., Ltd., 32 to 38, Southwark Street, S.E.

LAMP OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.

Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.

Homelight Oil Co., Ltd., 14, St. Mary Axe, E.C.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

LIQUID FUEL BURNERS.

Kermode's Liquid Fuel System, 35, The Temple, Dale Street, Liverpool.

LIQUID FUEL IMPORTERS.

The Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.

Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.

Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.

LIQUID FUEL INSTALLATIONS.

The Wallsend Slipway and Engineering Co., Ltd., Wallsend-on-Tyne.

LUBRICATING OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.

Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.

Bramwell, Fern & Co., London, Manchester and Liverpool.

Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.

Crew Levick Co., Irwell Chambers, W. Liverpool.

Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.

Meade, Kiug, Robinsou & Co., 22, Water Street, Liverpool, and Manchester.

The Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Work Co., Pittsburgh, Pa., U.S.A.

Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL BROKERS.

Benjamin & Gee, 31, St. Mary Axe, E.C.

Bramwell, Fern & Co., London, Manchester and Liverpool.

Lane & Macandrew, 26, Great St. Helen's, E.C.

OIL EXPORTERS.

Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Works Co., Pittsburgh, Pa., U.S.A.

OIL ENGINES.

Norris & Henty, 87, Queen Victoria Street, E.C.

Marshall, Sons & Co., Ltd., Britannia Works, Gainsborough.

OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.

Anglo-Maikop Corporation, Ltd., 7, Angel Court, E.C.

Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.

Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.

Crew Levick Co., Irwell Chambers, W. Liverpool.

Homelight Oil Co., Ltd., 14-20, St. Mary Axe, E.C.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Works, Pittsburgh, Pa., U.S.A.

Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL PIPELINES.

Russell, John, & Co., Ltd., Alma Tube Works, Walsall.

Stewarts & Lloyds, Ltd., 41, Oswald Street Glasgow.

OIL TRACTORS FOR TRANSPORT.

Marshall, Sons & Co., Ltd., Gainsborough.

PETROLEUM CAN MACHINERY MANUFACTURERS.

E. W. Bliss Co., Pocock Street, Blackfriars Road, London, S.E.

Rhodes, J., & Son, Ltd., Grove Iron Works, Wakefield.

PETROLEUM HOSE.

The United Flexible Metallic Tubing Co., Ltd., 112, Queen Victoria Street, E.C.

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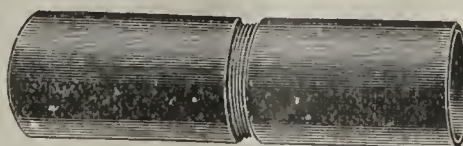
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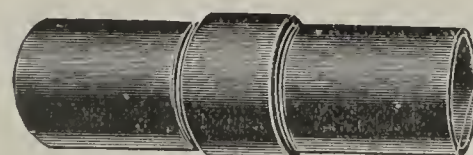
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Founded by PAUL DVORKOVITZ.

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THE PETROLEUM REVIEW.

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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

Dr. Day's Annual Statistical Report.

ELSEWHERE in this issue, we publish the first instalment of Dr. David T. Day's annual report upon the American petroleum industry during 1912, and though at a first glance some may be inclined to look upon the matter as one of a somewhat belated nature, the importance of Dr. Day's annual report as an authentic record of progress cannot be over-estimated. The magnitude of the American petroleum industry to-day is summed up by the author in the fact that the crude oil output represents over 63 per cent. of the world's total production of petroleum. Last year, remarkable as it may seem, the United States produced as much oil as was produced during the twenty-eight years following Colonel Drake's momentous discovery of crude oil, and its value represented considerably over £30,000,000 sterling. Truly the American petroleum industry to-day is of far more international importance than it has ever before been.

Forthcoming Important Conference in London.

THE REVIEW is in a position to make the definite announcement that during the run of the International Oil Exhibition at Earl's Court next March an important conference of the International Petroleum Commission will be held in one of the Exhibition buildings, through the courtesy of the organising manager of the Exhibition, Mr. G. D. Smith. During the present week we understand that Dr. David T. Day, of the United States Geological Survey, has given the suggestion his whole-hearted approval, while we learn that Professor Ubbelohde, of Karlsruhe, will readily fall in with the suggestion to transfer the venue of the conference sittings from Bucarest to London. We cannot but endorse the advisability of holding the conference during the forthcoming exhibition, for without a doubt

London will at that time be the rendezvous of the oil men of the world. It is obvious, too, that such a conference in London will be a popular meeting and tend to considerably increase the importance of the work which the International Petroleum Commission has on hand.

Canada's Mineral Wealth.

IN the last issue of the REVIEW we referred editorially to the great stores of oil shale wealth which await the hand of the explorer in the Dominion of Canada; to-day we refer to the operations and prospective success of one company, which will have an interest to English readers on account of the fact that its shares—or a good portion of them—are now being placed upon the English market. The Nakamun Asphalt and Oil Company, Ltd., of Edmonton, has been formed for the purpose of exploiting considerable areas already proved to be rich in coal and asphalt, and now it is turning its attention to developing its oil lands, which appear to give every promise of being a valuable asset. Our idea in referring at length to this Company is not so much to laud its potentialities as it is to prove to all and sundry that in spite of many failures there is plenty of scope for the remunerative activity of a company which directs its energies not to one mineral, but to several. In the present case the oil element is obviously a speculative portion of the Company's assets, yet it is evident that the Company is well advised to seriously explore its territories for oil: even if this fails, the natural gas, which is upon the property in substantial volume, can be easily turned to useful account, while, combined with the coal and asphalt phase of the undertaking, the shrewd investor must admit that he has possibilities in this concern which are absent in many others.

Baku's Declining Production.

THE output of crude oil in the Baku fields continues to steadily decline, and though it is some consolation to producers that the market keeps at such a remunerative level, it is evident that unless the Government quickly declares its intention to open up its own petroliferous lands for exploitation, the day will soon come when there will be a famine in Russia in regard to petroleum products. The decision of the Government to admit the duty free importation of naphtha and other products until the end of the present year does not in any way solve the present problem; at the best it is only staving off the evil day. The country's petroleum export trade has naturally fallen to pieces, yet there is not sufficient oil at home to satisfy local demands. Ship-owners on

the Volga are appealing to the Government to help them out of the present liquid fuel difficulty, while many of the great industrial firms in the interior have taken time by the forelock, and gone back to coal, which is also allowed to be imported free into the Russian Empire. Low as was the production of crude oil for the eight months of last year, when the figure was 275,000,000 poods, a further decline of 15,000,000 poods has been witnessed for the eight months of this year, and the monthly figures of output are still diminishing. One wonders if the Government will appreciate the serious position of the Russian petroleum industry before it is too late.

SANTA MARIA OILFIELDS OF CALIFORNIA, LTD.

Proposed Increase of Capital.

THE REVIEW understands that extraordinary general meetings of the shareholders of the Santa Maria Oilfields of California, Ltd., will be held next Thursday to consider resolutions approving of the agreement made on July 30th with the Palmer Annex Oil Company, providing for the purchase by this company, at the price of £270,000, to be satisfied by the issue of 250,000 ordinary shares and 20,000 preference shares of the company, both of £1 each and credited as fully paid-up, of:—Leasehold lands, comprising 11,920 acres, more or less, forming part of the Laguna ranch, and 240 acres, more or less, forming part of the Fugler ranch; 1,020,000 fully-paid shares of \$1 each, constituting 51 per cent. of the capital of the Shaw Ranch Oil Company, owning 1,000 acres of the Shaw ranch; and \$300,000 fully-paid capital stock (constituting the entire capital stock) of the Santa Maria Valley Railroad. If the resolutions are approved a further resolution will be submitted to a meeting on October 17th, increasing the capital by the creation of 250,000 ordinary shares of £1 each.

THE OIL TRADE OF CANTON.

IN his consular report upon the trade of Canton (China) during 1912, Mr. Pro-Consul Walker states that in regard to the kerosene trade the Asiatic Petroleum Company and the Standard Oil Company of New York continue to hold the field against all comers, and beyond the import of a new brand of oil from Texas during the year, of which the arrival was ill-timed, the trade ran a course as normal as could be looked for under the prevailing conditions. The bulk of the import is at once dispatched into the interior by junk, and during the first six months of the year the trade naturally suffered from the effects of the revolution. The figures for the latter half of the year, however, compare favourably with those of the corresponding period of 1911. Prices ruled somewhat higher than in that year, averaging as follows:—

			1911.	1912.
Borneo	...	Per case of two tins	\$2.5	\$2.55
Sumatra	...	"	2.25	2.75
Crude oil	...	"	30.0	30.0

It should be mentioned that one case of two tins equals eight imperial gallons. The Sumatra oil is for illuminating, the Borneo for illuminating and also for oil motors. The crude oil is in demand for the Diesel motors.

MR. FREDERICK G. CLAPP, of The Associated Geological Engineers, has returned from the gasfields of Hungary, and has gone to New Brunswick in company with Mr. Myron L. Fuller and Mr. Lloyd B. Smith, of the same Bureau.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended September 20th was 116,000 poods.

SPIES PETROLEUM COMPANY, LTD. — The latest figures of production for one day, September 21st, work having been resumed on the previous Saturday at mid-day, was 44,870 poods, or about 724 tons. The total production for the year, from January 14th to September 21st, was 9,186,350 poods, or about 148,167 tons. The total production for the corresponding period last year was 11,856,290 poods, or about 191,230 tons. Price of crude oil at Baku is now 56½ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD. — The production of crude oil for week ended September 20th was 15,332 poods (247 tons).

EUROPEAN OILFIELDS CORPORATION, LTD. — The production for the week ended September 21st was 99,600 poods, or 1,606 tons. Crude oil at Blacktown is now 56½ copecs per pood.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended September 20th was 116,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended September 20th was 28,776 poods (464 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended September 20th was 7,300 poods, or 118 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended September 21st was 10,896 poods, or 176 tons. One well has been out of production for three days.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended September 20th, 100,435 poods or 1,620 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest figures of production (for week ended September 2nd) are 58,300 poods, or 618 tons. Corresponding period last year, 730 tons. Total production to date for this year, 65,855 tons, last year 18,724 tons. For the week ended the 16th inst. there is no production to report, owing to the strike. A further meeting between employers and workmen has been held, but without result.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended September 21st was 67,533 poods or 1,089 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended September 20th was 14,960 poods.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended September 20th was 15,505 poods (250 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended September 20th was 1,505 poods (24 tons).

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The Creation of an International Petroleum Institute.

By Professor L. MRAZEC.

PROFESSOR L. M. MRAZEC has recently presented the Roumanian Government with a report upon the necessity of creating an International Petroleum Institute, the situation of which, in his opinion, should be in Bucarest, and toward the establishment of which a grant of money should be made by the Roumanian Government. As the project is of great interest to the petroleum industry in general, we give a complete enumeration of the most important points of Professor Mrazec's report. He says petroleum has to be considered as a generator of energy. The world's production of petroleum is continually growing, and its advantages, as well as those of its products for generating energy, and especially for use in locomotives and motors, is exceedingly great. The production of petroleum is certainly still very small in comparison with that of coal, but it increases rapidly, and its rôle in the economical life is beginning to be very important.

However, the economical war between these two generators of energy is quite excluded, as petroleum is used where the use of coal is not at all practicable. The ever-increasing demands of our civilisation will never be satisfied by means even of the two minerals, as the necessity of energy becomes exceedingly large, so that we can easily foresee the time when man will be forced to utilise other sources of energy.

The following data will show the great importance of petroleum in the world's mining industry.

In 1907 the value of the world's production of the principal minerals and fuel represented a sum of 25,000,000,000 francs, of which fuel (coal, petroleum and natural gas) contributed to the amount of 14,800,000,000 francs or 59 per cent. Of this 59 per cent. coal was represented by 53½ per cent. and petroleum 5½ per cent. In 1911 the corresponding figures were:—Principal minerals and fuel 30,000,000,000 francs, of which 17,500,000,000 francs represented fuel (coal petroleum and natural gas). Out of this figure, 15,000,000,000 francs, or 50 per cent. of the total, represented the value of coal and 2,500,000,000 francs, or 7 per cent., that of petroleum and natural gas. These figures are quite sufficient to show the importance of petroleum and the increase in its production, the value of which has increased during the four years from 1,300,000,000 francs to 2,500,000,000 francs.

But although petroleum is of such an importance for our modern civilisation, there does not so far exist any systemisation in the study of petroleum which would allow the placing into one centre of all the problems relating to petroleum, scientifically, technically, or economically.

The investigations of petroleum and its products are at present being carried out in quite an isolated fashion, either in various special technical higher grade schools, or in industrial establishments. Therefore, there is a great necessity felt for systematising these resarches, and directing these latter toward a solution of such

problems as are of the most practical importance not only for pure science, but also for the industry of petroleum.

The petroleum congresses which were held between the years 1900 and 1907, at Paris, Liege, and Bucarest and the initiative of which is due to Dr. Paul Dvorkovitz, have been organised with a view to co-ordinating as far as possible the isolated works which have been carried on in various countries. First of all there was the need of unifying the methods of qualifying the properties of petroleum and of its various products, and as a natural consequence of these congresses there was, in 1907, formed a permanent committee under the name of the International Committee for the Standardisation of Petroleum and its Products, which committee also occupies itself with questions regarding the transport and storage of petroleum, and with the question of the unification of the nomenclature of petroleum products by means of scientific definitions.

But the growing importance of petroleum in the mining industry as a generator of energy and light has brought forward in all countries (producing as well as consuming) the necessity for a systematic and comparative study of this product of the earth, from all points of view.

For this purpose boring schools have been created in several countries and special courses of instruction have been inaugurated in universities, technical schools and also laboratories—as, for instance, that of Dr. Dvorkovitz, in London, of Ragosin, in Moscow, etc.—have been instituted in which analytical and technological works have been carried out. Besides these geological institutions, various countries have also initiated special studies of petroleum deposits, as well as the technology of petroleum. Such geological institutes dealing with petroleum questions exist in the United States, Russia, Roumania, Austria, and also in Mexico and Japan.

Among the high schools, in which there has been instituted courses of lectures on petroleum, we may mention the University of Birmingham, the Polytechnic School in Lemberg, the Technical High School at Karlsruhe, Germany, the Technical High School in Berlin, the Mining Academy in Berlin, the Polytechnic School at Novotcherkask (Russia), the Ladies' University at Tiflis, the Ohio State University in U.S.A., the School of Applied Science at Cleveland, Ohio, and other isolated courses of instruction in various Universities of the United States. Great merit in pushing forward various studies in petroleum must be awarded to the well-known Imperial Technical Society of Baku and the Siezd of petroleum producers also in the same city.

It is thus evident that in various countries, great efforts have already been made to place the study of petroleum upon a scientific basis. In America this necessity has been understood for a very long time,

and America has inaugurated the "world's statistics of petroleum," conducted by Dr. David T. Day, of the United States Geological Survey of Washington; but the best idea, and most in conformity with modern and scientific demands would be to centralise everything which refers to petroleum in a special International Petroleum Institute. In such an institute there would be concentrated all statistical data relating to the technology, exploitation, exploration, consumption of petroleum, etc., etc.

Such an Institute would be occupied in studying all scientific and technical questions directly concerning the world's petroleum industry and commerce. The Institute would thus attain the following objects:—

(1) The collection of all data relating to the world's movement of petroleum and namely: Deposits, production, manufacture, transport, consumption, testing and analysing, etc.; the publishing of general statistics co-ordinated in a scientific way and based upon official and accurate figures.

(2) It would carry out general scientific studies, especially those which concern great problems touching practical questions of such nature as cannot be carried out by any particular enterprise or school.

(3) It would carry out analyses and studies of crude oil and its products, for the purpose of aiding the petroleum industry.

(4) The Institute would supply interested parties with information on all questions relating to petroleum.

(5) The Institute would have a special laboratory where anyone interested in petroleum would find all documents, statistics, etc., upon the subject, as well as literature on petroleum; laboratories for carrying out special and independent researches and analyses.

(To be concluded.)

THE PETROLIFEROUS DEPOSITS OF THE URALS.

THE well-known geologist, A. T. Zamiatin, who during the last two years has been engaged in investigating the geological structure of the petroliferous areas in the Ural Province, has, in an interview with representatives of the Russian Press, expressed the following opinion *re* the Ural deposits.

The existence of petroleum in the Ural Province has long been known, and a Russian pioneer, Mr. Lebedeff, has for many years tried to organise the exploitation of petroleum in that province. But he could not succeed in overcoming the Russian lithology and died a pauper, after having spent all his fortune. But now, with the inrush of English capital and energy, the chances of the Ural petroleum industry have quite changed. The Ural steppes have become full of life, work is proceeding rapidly, and at the same time speculation has also inundated the district. Wherever there is discovered the "petroleum smell" *zaiavki* are at once claimed and a panic soon follows. The speculation there is entirely "in the dark," *zaiavki* are taken anywhere and everywhere, without taking any account of correct geological data, etc. True, some indications have shown that Dossor petroleum is deposited in overthrows or in lines, but in view of the explorers concealing facts from geologists nothing as yet can be proved as an incontestable fact, and the existence of oil is accepted as soon as there is gas, which may be of quite a different nature to that of petroleum. At the commencement of such enterprise a most accurate geological and chemical study of the gas outbreaks should be made, and in any case large capital and extensive exploration boring are necessary. Mr. Zamiatin is also of the opinion that the deposits in the store districts cannot be very powerful.

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The Canadian Oil and Asphaltum Industry.

A PROPOSITION WITH GREAT POTENTIALITIES.

OF comparative recent date much attention has been drawn to the possibilities of the Canadian oil and asphalt industries, and this is not surprising in view of the fact that the demand both for asphalt and petroleum products is increasing all the world over by leaps and bounds.

The Dominion of Canada offers vast opportunities in regard to the exploitation of its mineral wealth. Its extensive deposits of oil shale have already been proved; its coal deposits in the neighbourhood of the Athabaska River, found in several seams at very shallow depths, have already awakened the enthusiasm of Canadians; its asphalt wealth is now being commercially explored upon a very remunerative basis; while of Canadian liquid oil, though this is not found in comparatively large quantity, the shortcoming in this respect is fully compensated for by the fact that the Government, by giving a substantial bounty upon home-produced crude oil, is fostering the industry in a remarkable degree.

But even this list of mineral wealth does not exhaust the possibilities of the exploitation of Canadian lands. The Province of Alberta is immensely rich in natural gas; it has been proved to exist not only in commercial quantity but in volume sufficient to light the towns and cities to which the gas can be easily piped. Natural gas is no unknown commodity in Canada, for to-day, at least, several towns derive their domestic supply for lighting and heating purposes from well gases. This is naturally very profitable to the operating concerns, but with the utilisation of natural gas for the purposes of making gasoline or motor spirit in California, a new field for activity opens before the operator, who in the future will not be so ready to allow such valuable gas to go to waste, as has hitherto been the case both in Canada and further west.

To-day quite a mild boom is in progress in the Edmonton district, and, as we recently announced in the REVIEW, hundreds of capitalists are making their way toward the region which lies between the city and the Athabaska River, where already active operations are being carried on by several concerns. One of these companies is the Nakamun Asphalt and Oil Company, Ltd., which, with a capital of \$1,200,000 is operating upon a large tract lying to the north-west of Edmonton. Formed in Edmonton, and having a large support from the residents locally, the company controls the petroleum, gas and asphalt rights over some 2,400 acres of land, having also nearly 1,000 acres of proved coal-lands, at Whitecourt, near Edmonton, which are traversed by the grade of the Canadian Northern Peace river branch.

The company is to-day energetically developing its three enterprises simultaneously. The development of the coalfield is being pushed forward as rapidly as the

restricted transport facilities will allow, while in order to test the oil capabilities of the Nakamun district, drilling machinery has been hurried to the spot and is now actually in operation. The illustration published in the centre of this page has been forwarded to us by our Alberta correspondent, and shows the commencement of the first well upon the company's property. Preliminary tests so far made have convinced those in charge of the operations that the producing sands will be encountered at a comparatively shallow depth, but the company has taken the precaution to provide facilities for sinking a deep well, for at the start, casing of 18 in. diameter is being used. The oil drilling work is in charge of a well-known oil-man, in the person of Mr. M. H. Murray of the Murray Drilling Company of California, who last year brought in several oil producing wells in the Alaskan field.

Although present indications are favourable to the early striking of oil, it is already established that commercial quantities of natural gas exist on the property, and these in themselves should be a very valuable asset. Mr. Murray states that the formation encountered on the company's properties is very similar to that of the McKittrick and Sunset - Midway fields of California, and the fact that the natural gas comes freely to the surface on many parts of the property



View of the Nakamun Company's First Bore.

tends to corroborate Mr. Murray's opinion of the high gas and oil value of the district which is now being explored.

For the present, however, the more important work is that which the company is carrying out in connection with the asphalt deposits. Large quantities of asphalt are, in fact, already being worked, and thus this aspect of the proposition is already on a commercial and paying basis. A year ago a road in the city of Edmonton was laid with the asphalt from the company's properties by the deputy-mayor of the city, and after almost twelve months' wear, the asphalt is stated by the city engineer to be in a satisfactory condition, the material having proved its admirable fitness for road repair and upkeep.

As is known, the demand for asphalt in connection with road-making is increasing by leaps and bounds, and though the product found upon the Nakamun Asphalt and Oil Company's property is not of the bituminous high-grade order, it is an article for which a ready demand exists in the Canadian Dominion, from which source alone the company should make substantial profits.

Through the agency of the Canadian Industrial Development Company, Ltd., of Albany Buildings, 47, Victoria Street, London, S.W., an offer of \$100,000 shares, fully-paid and non-assessable, in the Nakamun Asphalt

and Oil Company, Ltd., is now being made to the British public. This fact has caused the REVIEW to make inquiries into the proposition as an investment, and as the result of such inquiries we have reasons which justify our stating that the company's prospective success appears to be far nearer realisation than that of many other oil concerns whose claims upon the shrewd investor have been shouted from the housetops.

We have perused the official list of shareholders in the company, from which we see that the company has received the most cordial support of the local investors, fully 90 per cent. of the stockholders being local people.

We can only regret that it was owing to the policy of many of the old Canadian companies in confining their attentions to searching for liquid oil alone that they did not meet with success; had they, in their programme, coupled in the search for oil the exploitation of coal and asphalt areas, as well as turning to good account the natural gas which hitherto has been going so lamentably to waste in various parts of the Canadian Dominion, the pages of oil history would not have been darkened by so many failures of enterprises.

THE SITUATION OF LABOUR IN THE ROUMANIAN PETROLEUM INDUSTRY.

THE *Roumanian Commercial Moniteur* contains interesting statistical information of the Statistical Bureau with regard to the labour employed in Roumania in the industry of the extraction of petroleum.

There are employed in normal times in the extraction of petroleum in Roumania 12,235 persons, of which 11,460, or 93·86 per cent., are Roumanian subjects and 775, or 6·34 per cent., foreigners. Out of the above total 10,788 persons, or 85·72 per cent., are employed in the Prahova district, namely, on the fields of Moreni, 5,062 persons; Bushtenari, 2,428; Campina, 1,303; Tzintea, 887; Filipeshti de Padure, 419; Baicoi, 235; and other fields, 154 persons. The district of Buzeu employs 981 persons, or 8 per cent.; Bacau, 459 persons, or about 4 per cent.; and Dambovitza, 307 persons, or about 2½ per cent.

All the staff of employees is divided into the following classes:—(1) Engineers and managers of exploitations; (2) Office staff; (3) Drillers-in-chief, foremen drillers, drillers and extractors; (4) Workmen engaged in workshops; (5) Supervisors and inspectors; (6) Unskilled labourers.

The regulations of the mining administration and police demand from each exploitation a list of all employed, stating their names, nationality, age, class of employment, and salary. Notwithstanding this exact information as regards salaries, the details are not often forthcoming, and it is therefore difficult to look in the monthly list for accurate figures. Still, a more or less accurate idea of the salaries of the native staff can be made from the following figures: The Roumanian drillers-in-chief have an average salary of 330 francs a month at Bacau and 383 francs at Dambovitza. The minimum salary at Prahova is 210 francs, and the maximum at Dambovitza is 500 francs. The salaries of the foreign drillers vary from 240 francs at Bacau to 1,000 francs at Prahova. The foremen drillers obtain from 180 to 300 francs a month. The drillers obtain a day's wage, varying from 2·75 to 3·35 francs on the average, but there are some who are paid from 6 to 8 francs a day. The unskilled labourers obtain from 1·90 francs (Buzeu) to 2·90 francs (Prahova) a day.

GROSNY PETROLEUM PRODUCTION DURING JULY.

THE total production of petroleum on the Grosny oilfields during July amounted to 5,686,547 poods as against 5,986,592 poods obtained during May, thus showing a decrease of 300,045 poods, or of 5 per cent. There was no spouting production at all. This production was obtained on 66 plots from 258 wells of an average depth of 1,778½ ft. New boring amounted to 16,725 ft. in 79 wells on 56 plots. 565,737 poods of oil were consumed as fuel on the fields, and there was in store on August 1st 1,872,009 poods as against 1,578,250 poods on July 1st. Altogether there were in work 101 plots and 447 wells, of which 241 in exploitation, 90 in boring and deepening, 66 inactive, and 54 in various repair.

The total boring during the first half-year amounted to 85,591 ft., or 28,711 ft. more than during the corresponding period of 1912. The most increase is shown by the Tcheleken-Dagestan Company, 11,499 ft., and the North Caucasian Company, 10,978 ft. The total production during the half-year amounted to 36,025,424 poods, as against 32,637,866 poods obtained during the six months of 1912, including spouted oil 11,300 poods as against 1,352,530 poods. The most increase in the production is shown by the Akhverdoff Company, North Caucasian Company, and Anglo-Russian Maximoff Company. The boring activity, which has increased to unprecedented dimensions and partly directed to shallow boring on new plots, is expected to lead to an increase in the production at the end of the year. Especially active in this regard was the Tcheleken-Dagestan Company, which during June had in work 48 wells and has obtained a new production of 3,000 poods a day on plot No. 67 from a depth of 2,845 ft. There is great activity displayed on all the new fields, and plots are rapidly taken up everywhere in the Terek Province.

THE NORWEGIAN PETROLEUM TRADE.

ACCORDING to the report of the Russian Consul in Finmarken there has been created during the last few years in Norway a fleet of motor-vessels, the number of which at Finmarken amounts to several thousands. In connection with this the prices for kerosene and petroleum have considerably risen, and at present several companies intend to erect along the whole of the Norwegian coast a series of reservoirs from which to feed the fleet of motor-vessels with fuel. Among these companies the Norsk - Engelsk Mineralolice Actieselskab intends erecting such reservoirs in all the coast towns, beginning from Aalesund up to Wadse, and on the north at Svolvère, Tromsø and Hammerfest. There will be a regular communication between these towns by means of special tankers, from which the reservoirs will be fed. Another company erecting such tanks is the Vestlandske Petroleum Selskab. Both these companies are importing American oil. Another large firm—Fritz Dreyer—at Tromsø, has organised the import of Nobel Bros.'s crude oil, which is considered superior to American petroleum for motor-boats.

American Petroleum Production during 1912.

*An Exhaustive
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Bulletin.*

Dr. DAVID T. DAY'S OFFICIAL REPORT.

THE production of 1911 was equalled and passed in 1912, when the total in barrels reached 222,113,218 (or 29,615,096 metric tons), compared with 220,449,391 barrels in 1911. Higher prices were the rule in 1912 except in California, and even in that State there was no considerable decline. The average price per barrel in 1912 was nearly 74 cents, as against nearly 61 cents in 1911. The total value therefore increased markedly, reaching \$164,802,334, or 22.20 per cent. above the value for the previous year.

In order to appreciate the magnitude of the present oil production it should be noted that it required twenty-four years after the beginning of the industry in 1859 to produce as much oil as one year's present output, and the output of only the last eight years equals all produced before. The output of the United States in 1912 was greater than that of all other countries by 72 per cent., being 63.25 per cent. of the world's product.

In order that the official statistics here presented may be intelligently compared with those published by other authorities, it should be noted that the production given for the year includes pipeline runs, plus independent railroad shipments, plus oil piped direct to refineries, and the crude oil consumed as fuel in oil production. The production does not include stocks in the field which have not been sold.

The greatest increase in quantity was in California, where the total advanced from 81,134,391 barrels to 86,450,767 barrels, a gain in that State alone of 5,316,376 barrels, or 6.55 per cent. Wyoming showed a remarkable gain from 186,695 barrels to 1,572,306 barrels, or 742 per cent., due to the increased activity of the Mid-West Oil Company and the Wyoming Oilfields Company. Operations in North Texas also more than offset the usual decline in the Gulf region, and resulted in a significant gain for the State.

The volume of crude oil and of the usual products exported from the United States increased, owing to foreign conditions being much more favourable to American exporters. Meanwhile importation of gasoline from the East Indies was a favourable element in relieving the growing demand for this product on the Pacific coast.

The improved export conditions and the increased capacity of the refiners to take care of the great yield of crude oil resulted in a marked decline in stocks in all fields except California, and even there the storage of petroleum was checked by expanded consumption.

The total stocks of all crude oils aggregated 137,000,000 barrels at the beginning of 1912; by the close of the year this total had declined to 123,000,000 barrels, or a decrease of about 10 per cent. The principal decline was in the field east of the Rocky Mountains. On January 1st, 1912, these stocks aggregated 94,000,000 barrels; they declined during the year to 79,000,000 barrels, or a decrease of about 16 per cent.

This decline at once brought out a noteworthy stimulation of prices all over the East, thus increasing the activity in drilling. Its effect was marked; so much so that the natural decline of the older fields was partly checked. Even Ohio showed a slight increase in production in 1912, the first time in twelve years.

Present conditions of production indicate a somewhat increased production during the current year, 1913. This increase will come chiefly in California and in other States from the stimulus of higher prices especially in the mid-continent field. The production of California will undoubtedly become a more significant element in the general petroleum industry with the opening of the Panama Canal, until, at least, the consumption in California outstrips production. It is not improbable that the flow of fuel oil through the pipeline alongside of Panama Canal may eventually be reversed, because fuel oil is so essential to the industrial development of the west coast, and because it may become possible, in the very near future, to supply very large quantities of low-priced oil from the Mexican fields. Importations from that country of low-grade oils are already tending to offset the exports from the United States of high-grade products. The imports of gasoline from the Far East being considered, it is probable that the net amount of gasoline exported will rapidly decline, while the exports of lamp oils and lubricants will increase. The great economic change in oil consumption effected by the development of gasoline engines, calls attention to the possibility of other great variations in consumption of petroleum products. Lubricating oils can only show a gradual extension with the increased use of power of all kinds. Similarly the use of kerosene in lamps is not likely to show the sudden development observed in the gasoline trade. Nevertheless, the great discrepancy must be noted between the per capita consumption of illuminating oil in various countries. It might be expected that the advent of gas and electricity would check the use of lamps. The contrary is the case. But the change is slight compared to the great and significant difference in the per capita consumption of oil for light in various countries. In spite of the development of gas and electricity in the United States, this country leads in the consumption of oil for light, using about twenty-five gallons of kerosene per capita per year. Other countries range in this consumption as low as to a tenth of this quantity. Besides the efforts to increase the use of artificial light as an outlet for oil, the effort to disseminate literature of all kinds in all countries will tend to increase the per capita use of oil; for example, China, with its great population, is in the class of very small consumption, and a slight increase there in literacy may rival the automobile in improving the oil market.

As stated in the last report of this series, the statistical portion of this report is the result of co-operative

work between the government and the petroleum producers, the transportation companies, especially the pipeline companies, and the consumers. This co-operative work has been entirely voluntary without any obligatory legislation whatever being invoked on the part of the government. The amount of service thus rendered has involved many weeks of work by the statistical officers of large corporations and by others among the 14,000 contributors, and it is here gratefully acknowledged, as is also the skilled work of the petroleum accountants in the Survey.

As heretofore, the result has been obtained under two independent systems of statistics. Under one system returns are made direct to the Survey by the pipe-line as to the quantity of oil collected from the field, this information being supplemented by returns from railroads and refineries as to oil which was collected but did not go through pipe-lines. Under the other system the returns are from the producers of petroleum as to the quantity produced and marketed plus the quantity used in the field.

By this means two totals are obtained, and when these two totals agree closely the substantial correctness of the report is assured. An interesting result, which is hereby demonstrated, is the remarkable accuracy of the pipe-line statistics.

In the States of Kansas, Michigan, Missouri, Oklahoma, Pennsylvania and Texas, the statistics from the producers have been collected in co-operation with the State geologist, and appreciation is hereby expressed for the arduous labour carried on by these officers in order to make the reports complete at the earliest possible date.

The statistics of foreign countries have been obtained chiefly by direct correspondence with the officials of the government concerned, as well as by the aid of many private authorities.

The statistical work and compilation of tables has been under the charge of Miss Anne B. Coons, statistician, whose work of revision of the statistics of runs, deliveries, and stocks is especially acknowledged.

The statement of the production of petroleum in 1911 and 1912 is given in detail by States in the tables which follow :—

TOTAL QUANTITY AND VALUE OF PETROLEUM PRODUCED IN THE UNITED STATES AND THE AVERAGE PRICE PER BARREL IN 1911 AND 1912, BY STATES, IN BARRELS.

State.	1911.			Average price per barrel.
	Quantity.	Value.		
California ...	81,134,391	\$38,719,080		\$0.477
Colorado ...	226,926	228,104		1.005
Illinois ...	31,317,038	19,734,339		0.630
Indiana...	1,695,289	1,228,835		0.740
Kansas ...	1,278,819	608,756		0.476
Kentucky ...	472,458	328,614		0.696
Louisiana ...	10,720,420	5,668,814		0.529
Michigan ...	—	—		—
Missouri ...	7,995	7,995		1.000
New York ...	952,515	1,248,950		1.311
Ohio ...	8,817,112	9,479,542		1.075
Oklahoma ...	56,069,637	26,451,767		0.472
Pennsylvania ...	8,248,158	10,894,074		1.321
Texas ...	9,526,474	6,554,552		0.688
Utah ...	—	—		—
Wyoming ...	186,695	124,037		0.664
West Virginia ...	9,795,464	12,767,293		1.303
Totals ...	220,449,391	\$134,044,752		\$0.608

State.	Quantity.	1912.		Average price per barrel.
		Value.		
California ...	86,450,767	\$39,213,588		\$0.454
Colorado ...	206,052	199,661		0.937
Illinois ...	28,601,308	24,332,605		0.851
Indiana...	970,009	885,975		0.913
Kansas ...	1,592,796	1,095,698		0.688
Kentucky ...	484,368	424,842		0.877
Louisiana ...	9,263,439	7,023,827		0.758
Michigan ...	—	—		—
Missouri ...	—	—		—
New York ...	874,128	1,401,880		1.604
Ohio ...	8,960,007	12,085,998		1.347
Oklahoma ...	51,427,071	34,672,604		0.674
Pennsylvania ...	7,837,948	12,886,752		1.644
Texas ...	11,735,057	8,852,713		0.754
Utah ...	—	—		—
Wyoming ...	1,572,306	798,470		0.507
West Virginia ...	12,128,962	19,927,721		1.643
Totals ...	222,113,218	\$163,802,334		\$0.737

TOTAL PRODUCTION OF PETROLEUM AND PERCENTAGE OF INCREASE OR DECREASE, BY STATES, IN 1912, AS COMPARED WITH 1911, IN BARRELS.

State.	Production		Percentage.	
	1911.	1912.	Inc.	Dec.
California ...	\$1,134,391	\$86,450,767	6.55	—
Colorado ...	226,926	206,052	—	9.20
Illinois ...	31,317,038	28,601,308	—	8.67
Indiana ...	1,695,289	970,009	—	42.78
Kansas ...	1,278,819	1,592,796	24.55	—
Kentucky ...	472,458	484,368	2.52	—
Louisiana ...	10,720,420	9,263,439	—	13.59
Michigan ...	—	—	—	—
Missouri ...	7,995	—	—	—
New York...	952,515	874,128	—	8.23
Ohio ...	8,817,112	8,969,007	1.63	—
Oklahoma...	56,069,637	51,427,071	—	8.28
Pennsylvania ...	8,248,158	7,837,948	—	4.97
Texas ...	9,526,474	11,735,057	23.18	—
Utah ...	—	—	—	—
Wyoming ...	186,695	1,572,306	742.18	—
West Virginia ...	9,795,464	12,128,962	23.82	—
Totals ...	\$220,449,391	\$222,113,218	0.755	—

(To be continued.)

THE directors of the British-Austrian Oil Investment Company, Ltd., have declared an interim dividend of 5 per cent., less income-tax, on the issued share capital of the company, payable October 4th.

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„ Servian ...	6,700	New Steamer	6,200	„ Luciline ...	5,200
„ Carpathian	6,700	„ „	6,200	„ Le Coq ...	4,700
„ Roumanian	6,700	„ Terek ...	5,200	„ Rock Light...	4,100
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LATEST QUOTATIONS OF PETROLEUM SHARES.

ENGLISH COMPANIES.

This list is restricted to companies who have paid dividends or who are producers.

Company.	Share Capital.	Value of Shares.	Latest Prices.
	£		
Anglo-Maikop Corporation...	650,000	£1	$\frac{7}{16}-\frac{9}{16}$
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{23}{32}-\frac{31}{32}$
„ 5% Deb. Stock ...	600,000	£100	86-90
Assam Oil ...	310,000	£1	$\frac{5}{8}-\frac{3}{4}$
Baku Russian Petroleum Co.	750,000	10/-	5/3-5/9
Bibi-Eibat Oil Co. ...	312,500	10/-	6/0-7/0
Californian Oilfields...	500,000	£1	6-6½
European Oilfields ...	385,000	10/-	7/0-8/0
Lobitos Oilfields, Ltd.	400,000	£1	27/3-28/3
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{5}{8}-\frac{3}{4}$
Pacific Oilfields, Ltd.	250,000	£1	3/0-4/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	20/6-21/6
Russian Petroleum Co. ...		10/-	3/9-4/3
Schibaieff Petroleum, new Pref. (fully paid) s/s		—	$1\frac{5}{16}-1\frac{7}{16}$
„ „ new Ord.	575,000 s/s	(fully paid)	13/3-14/6
Shell Transport and Trading	2,500,000	£1	$5\frac{5}{16}-5\frac{3}{8}$
„ „ „	1,200,000 Pref.	£10	$10\frac{3}{4}-11\frac{1}{2}$
Spies Petroleum Co. ...	600,000	10/-	21/9-22/9

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	760	763
Caspian Society (Issue 1910) ...	1,000	3,450	3,480
A. I. Mantascheff & Co. ...	250	772	775
Nobel Bros....	5,000	19,900	20,000
Nobel Bros. (Issue 1912) ...	250	1,015	1,020
Russian Naphtha Society	100	289	292
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	282	284
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	380	385

SCOTCH PRICES.

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Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
British Australian Oil Co., Ltd. ...	300,000	£1	2/6
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	37/9
6% Cum. Pref.	100,000	£10	£11½
Burmah Oil, Ord. ...	1,100,000	£1	73/6
„ Pref. ...	250,000	£1	25/6
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	8/6
Mexican Eagle Oil, Ltd.,			
Non. Cum. Pref. ...	\$8,500,000	\$10	45/0
Oakbank Oil Co., Ltd., Ord. ...	170,000	£10	35/9
Pref. (£1 paid) ...	100,000	£1	22/6
Premier Oil Ord. ...	2,300,000	£1	9/0
Pumpherstons Min. Oil Co., Ltd.			
Ord. (17/- paid) ..	110,500	17/-	5½
6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	8/6
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	73/0
„ „ „ B ” Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).	
Dordtsche Petroleum Industrie My., Ord. ...	Aand	183
„ „ „ Pref. ...	„	182
Royal Dutch Petroleum Co. ...	„	624
Moeara Enim Petroleum Maatschappij	„	238
Perlak Petroleum Maatschappij	„	51
Sumatra Palembang Petroleum Maatschappij	„	230
Zuid Perlak Petroleum Maatschappij, Pref.	„	50
Tarakan Petroleum Maatschappij ...	„	106



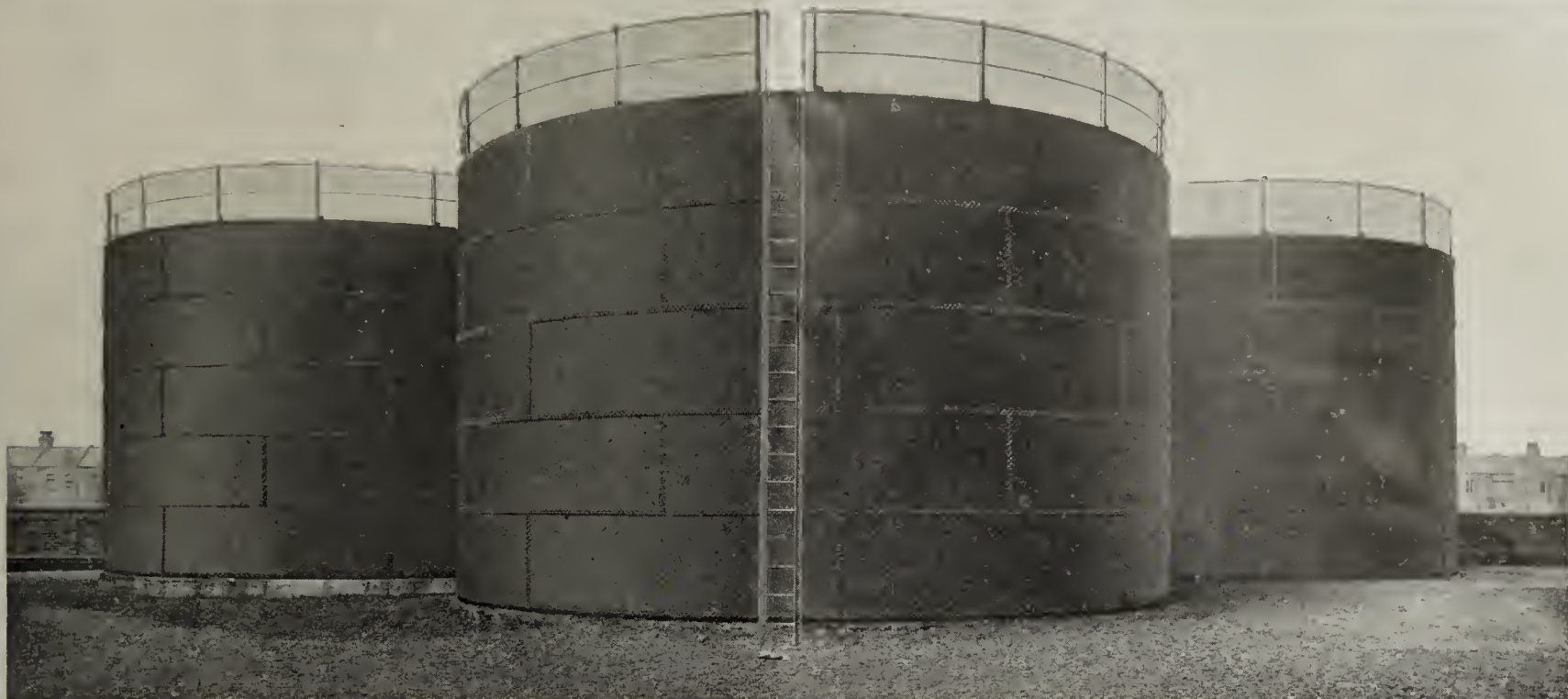
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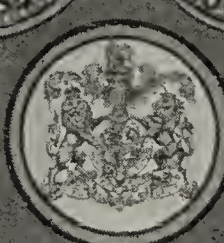
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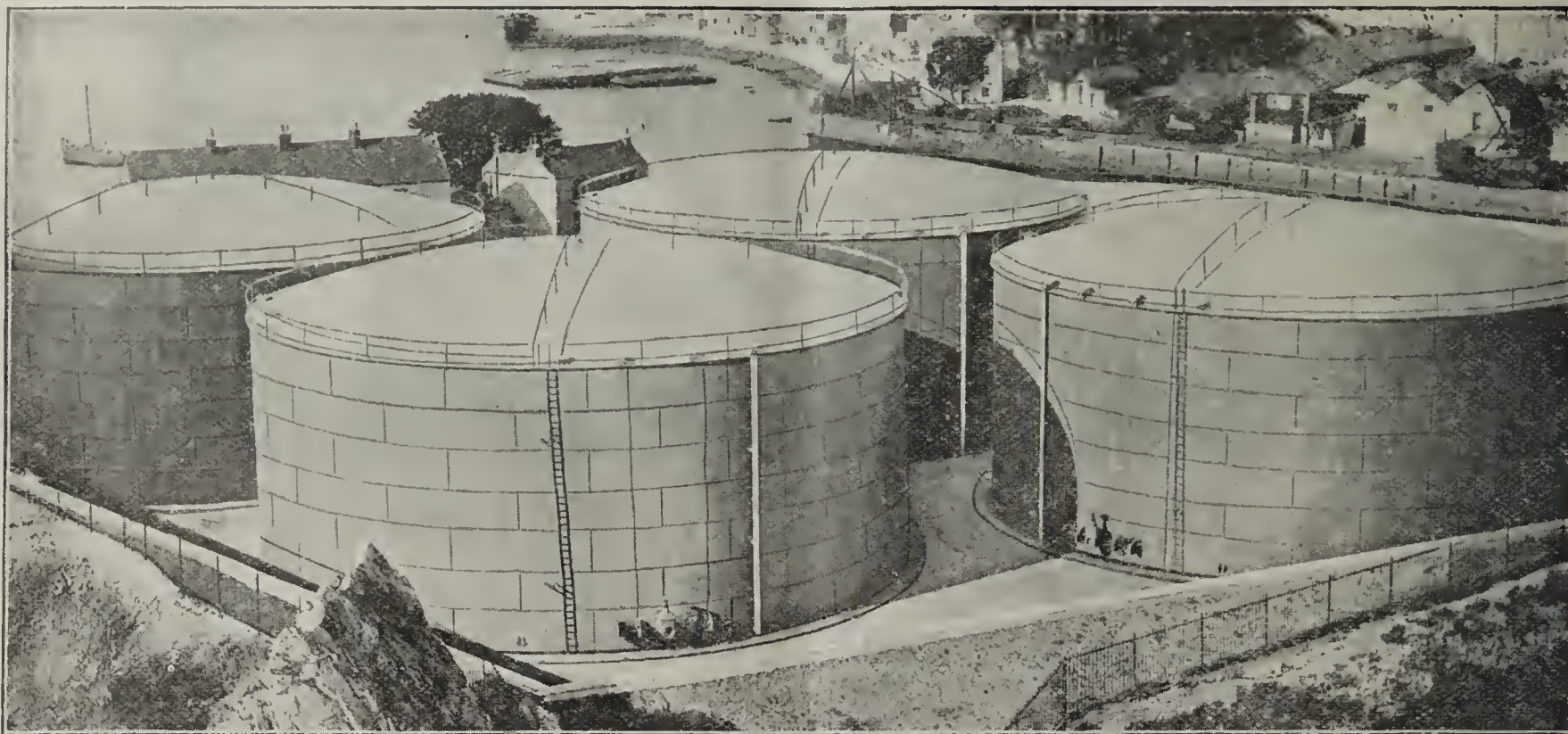
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CHIEF CONTENTS.

	PAGE
Editorial Notes	327
Production of English Companies in Russia	328
The Creation of an International Petroleum Institute	329
The Canadian Oil and Asphaltum Industry	331
American Petroleum Production during 1912	333
Latest Quotations of Petroleum Shares	336
Next Year's Oil Exhibition...	339
Classified Imports into the United Kingdom	340
Notes from the Oilfields	341
The Oilfields of Burma	342
The Prevention of Waste of Oil and Gas from Flowing Wells in California	343
The Drilling of Gas and Oil Wells	345
New English Companies	347
The American Oil Market	349
Home and Foreign Market Intelligence	351
Imports of Petroleum Products	352

THE
PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office : 111, Broadway, New York.

SATURDAY, SEPTEMBER 27TH, 1913.

NEXT YEAR'S OIL EXHIBITION.

SIX months hence the World's Oil Industries Exhibition will be nearing the completion of its run at Earl's Court, London. In view, therefore, of the comparative nearness of the time for the holding of this international show, it is advisable that its importance should be emphasised as much as possible to all those having a direct interest with the world's petroleum industry.

There were some who were inclined to belittle the initial attempt made last year at Olympia when the first oil exhibition was held; but there were many more who were not slow to recognise the vast possibilities of a well-organised exhibition run on international lines, and our readers will recollect that within a few weeks of the closing of the doors of that show it was decided that a really representative Oil Exhibition should be held in the spring of 1914 in London.

Since that time, however, events have marched quickly. The organising manager of the exhibition, Mr. G. D. Smith—the hero of dozens of successful trade shows—with a desire to secure a central spot

which would admirably meet the requirements of a large exhibition, engaged one of the largest palaces at Earl's Court, and at the same time secured space in the adjoining ground in order that every section of the petroleum industry should be able to participate upon an elaborate scale. The fact that the exhibition building itself is over 500 ft. in length is in itself suggestive of the gigantic nature of next year's international undertaking, and it comes as no surprise to us to learn that several of the largest English firms have already officially taken space therein.

Mr. Smith's idea always has been that if a thing be worth doing at all it is worth doing well, and in pursuance of this policy the hurried and yet very successful journey which he made to the United States a couple of months ago speaks eloquently. It is, of course, too premature to refer in detail to the practical outcome of Mr. Smith's trip, but it is no secret to mention that during his stay in the New Continent Mr. Smith secured the hearty co-operation of the United States Government and the personal good-will and assistance of Dr. David T. Day, the chief of the Geological Survey at Washington. It is therefore a foregone conclusion that in next year's exhibition America will take a prominent place.

Other Governments, too, are seriously considering the proposition, and it is not exaggerating fact when we say that several continental powers will be officially represented, while Trinidad and other British possessions have already announced their desire to make a strong show.

In the grounds visitors will be able to see not only the complete equipment necessary for oilfield exploitation, but the actual drilling of wells, for at the time of writing several oilfield supply manufacturers are upon the point of concluding the necessary arrangements with this end in view, one contractor having booked space several months ago.

There is no doubt that next year's exhibition will be immensely educational. Apart from the field operations in the exhibition grounds and the host of displays in the Great Hall, a course of lectures is being arranged, which will cover practically the whole run of the exhibition. Then, too, a series of cinematograph films will be shown vividly depicting oilfield scenes, the bringing in of oil wells, the transporting of the oil, etc., while arrangements are, we understand, about to be completed whereby the Conference of the Delegates of the International Petroleum Commission, which

was to have taken place at Bucarest next March, will be held at Earl's Court simultaneously with the exhibition. This last-mentioned item places an indelible international stamp upon the forthcoming Oil Industries Exhibition, which now passes from its experimental stage and becomes at once a successful venture, of which the world's petroleum industry and all associated with it may be justly proud.

DEVELOPMENTS IN THE OILFIELDS.

LATEST PROGRESS REPORTS.

Traian Roumanian Oil Company, Ltd.—Production of crude oil for week ended 20th inst., 385 tons.

Maikop Pipeline and Transport Company, Ltd.—Received for pumping for week ended 20th inst.: Ekaterinodar line, 50,974 poods (822 tons).

Anglo - Maikop Corporation, Ltd.—Telegram, dated 21st inst., from manager at Krimskaya: "Well No. 1, depth 1,210 ft. Well No. 2, depth 108 ft. Well No. 3, depth 254 ft."

Levanovskoe Petroleum Syndicate, Ltd.—Production of crude oil for week ended 20th inst., 3,600 poods (58 tons). Well No. 2, installing baling drum. Well No. 3, depth 1,090 ft. Well No. 4, depth 40 ft.

Maikop Premier.—New well No. 3, depth about 900 ft.; and new well No. 4, depth about 892 ft.; new well No. 5, 575 ft. deep (increase for the week 34 ft.)

Tampico-Panuco Oilfields, Ltd.—Cable: "Well No. 1 at Arena, belonging to Tampico-Panuco Oilfields, Ltd., depth 1,770 ft., cable rig completed; hope to continue drilling deeper next week. Well No. 1 at Tamboyoché, belonging to Tampico-Panuco Oilfields, Ltd., depth 3,250 ft."

Kern River Oilfields of California, Ltd.—The management committee of the subsidiary company—the St. Helens Petroleum Company, Ltd.—report as follows with reference to the drilling operations for the two weeks ended 23rd inst.: Santa Maria well No. 1, depth, 2,500 ft.; increase, 43 ft.; formation, brown shale; water is shut off. Fullerton well No. 2, depth, 2,750 ft.; increase, 340 ft.; oil show; will cement. McLeod lease, well No. 1, depth, 2,725 ft.; increase, 575 ft. Fullerton well No. 3, and Mid-way well No. 3, rigging up.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO SEPTEMBER 22nd, 1913.

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IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Sept. 15.	From Jan. 1.	Since Sept. 15.	From Jan. 1.	Since Sept. 15.	From Jan. 1.	Since Sept. 15.	From Jan. 1.	Since Sept. 15.	From Jan. 1.	Since Sept. 15.	From Jan. 1.	Since Sept. 15.	From Jan. 1.	Since Sept. 15.	From Jan. 1.
Belgium ..	—	—	26,740	553,663	—	—	—	—	—	20,820	—	120	510	4,910	27,250	590,513
Canada ..	—	—	—	7,040	—	38,450	—	—	—	—	—	—	—	—	—	45,490
Dutch Indies ..	—	—	—	—	—	—	—	—	1,954,000	30,781,450	—	299,497	—	—	1,954,000	31,080,947
Germany ..	4,360	159,720	373,390	2,686,880	—	600	—	107,120	—	—	—	400	—	4,610	377,750	2,959,330
Holland ..	—	—	240	8,580	—	—	—	—	—	5,849,340	—	—	—	590	240	5,858,510
Mexico ..	—	4,002,250	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Roumania ..	—	12,856,037	—	—	—	—	—	1,062,800	—	1,123,800	165,200	11,968,480	—	—	165,200	18,157,330
Russia ..	—	9,851,130	6,240	11,392,340	—	389,370	—	1,150,000	—	2,981,830	—	9,029,060	—	—	—	26,016,927
U.S.A. ..	1,650,200	79,788,756	558,530	34,722,284	—	165,320	4,838,530	46,681,440	2,811,920	18,062,720	122,900	2,512,630	13,800	753,005	9,995,880	33,522,190
Other Countries	—	80	1,560	114,470	—	480	—	—	—	4,859,240	—	3,620	—	1,460	1,560	4,979,350
	1,654,560	106,657,973	966,700	49,485,257	—	594,220	4,838,530	49,001,360	4,765,920	75,568,550	288,100	23,813,807	14,310	764,575	12,528,120	305,896,742

NOTES FROM THE OILFIELDS.

AMERICAN.

Loss by Lightning.—The Associated Company recently lost a 55,000 barrel storage tank and contents during a storm of lightning, while two rigs were also destroyed in the vicinity.

Heat and Drought Stops Operations.—In the mid-continental fields all drilling operations have been stopped owing to the extreme heat and drought. In some places water is being conveyed eight miles for domestic purposes.

Kerosene for Chinese Ports.—The "Cowrie," one of the "Shell" Company's fleet, after discharging at San Francisco 2,500,000 gallons of Sumatra motor spirit, left the port with a cargo of refined oil for China. The kerosene was furnished by the Union Oil Company.

Agency Sales during July.—During July the Independent Producers' Agency sold about a million and a quarter barrels of crude oil, the price to the Agency members being 36 cents per barrel. Owing to the increased production for disposal some of the oil went into stock.

The Standard in California.—It is estimated that the crude oil production of the Standard Oil Company in the Californian fields at the present time is approximately 37,500 barrels daily. The company's large well in the Sunset-Midway field still continues to yield nearly 2,000 barrels daily.

The Texas Company Increases its Dividends.—The Texas Company has decided to increase its dividend from the 6 per cent. basis to one of 7 per cent. The highly satisfactory condition of the company from a financial standpoint and the good showing made by it during the past year justifies the increased dividends.

The General Petroleum Company.—After several weeks of consideration the Independent Producers' Agency of California has decided not to admit the General Petroleum Company to membership. The reason assigned for this step is that the Agency cannot assume the responsibility of marketing more oil than the present members produce.

The Associated Oil Company has recently declared a dividend of \$1½ per share, involving a distribution of \$600,000. The declaration has come as a surprise in view of the very heavy obligations which the company has to meet, especially in the construction of its new refinery at Avon. It is said that the concern was never in a stronger position.

RUSSIAN.

Cargo of Dossor Petroleum.—During this navigation season 1,000,000 poods of Dossor oil have entered Astrakhan.

Cheesbrough Company.—Under this name an American company has been authorised to manufacture and trade in petroleum products.

Import of Petroleum from Abroad.—The import of crude oil from abroad has, as we have already stated, been authorised by the Council of Ministers up to January 1st—14th, 1914.

New Schibaieff Petroleum Company.—The New Schibaieff Petroleum Company is now engaged in deepening several wells on the fields of the old company and in boring a new well at Balakhani.

Spouter at Binagadi.—On August 25th a spouter broke out from well No. 7 of the Binagadi Society, which during three and a half hours of spouting ejected 50,000 poods of pure petroleum and then stopped, owing to the formation of a cork.

Dossor July Production.—The production of crude oil at Dossor during July amounted to 700,000 poods, including 350,000 poods produced by two spouters of the Ural Caspian Petroleum Company. The oil has been forwarded partly to Baku, partly on the Volga.

Grosny Petrole.—This company has concluded the 1912-13 operating year with a net profit of 5,222,222 francs, as against 3,284,011 francs received during the preceding year. A dividend of 150 francs per privileged share and 125 francs on ordinary shares is declared.

Caspian Black Sea Petroleum Company.—This company has concluded its twenty-ninth operating year (1912) with a balance of 37,000,000 roubles. With a capital of 10,000,000 roubles, the net profits amounted to 1,600,000 roubles. A dividend of 14 per cent. is being distributed.

New Petroleum Sources in the Kuban Province.—According to the geologist Grebneff, the new petroleum deposits near Ekaterinadar are very rich and profitable. The Vladikavkaz railway has completed its agreement with the owners of the lands for a seven years' lease. The average yearly yield is estimated at 9,000,000 poods.

Deficiency in Crude Oil at Baku.—The deficiency in the production of crude oil at Baku owing to the strike is considerable; the July production amounted to but 29.8 million poods, as against 33.4 million poods obtained in July, 1912. This deficiency will be felt especially after the close of navigation, when fresh supply will be cut off.

Petroleum in the Astrakhan Province.—About 500 certificates for petroleum exploitation in the Astrakhan province have already been granted. According to recent information, the petroliferous nature of the territory in the Kirgis steppes has been quite established, and the oil there appears on the surface in the northern part, in the shape of gas, in the southern part in that of semi-fluid petroleum. The Ministry of Agriculture intends sending a geologist in order to fully investigate the locality.

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THE OILFIELDS OF BURMA.

Their History and Development.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

Reprinted from
"Memoirs of the
Geological Survey
of India."
Volume XL, Part 1.

(Continued from page 304.)

SABE FIELD.

SOME seven wells have been drilled in Block 4 by the Burma Oil Company, but the oil encountered has been sufficient to work in two wells only.

In Blocks 1 and 2, three or four wells were drilled by the same company, and one well produced a little oil, but the prospects are poor. A natural oil seepage occurs in the Magyi Chaung a little west of the crest.

A well was sunk in Block 48 by the Minbu Oil Company to over 1,500 ft., but with no result. I am unaware of the position of this well, but the only spot which offers any inducement to operators is the extreme south-west corner, where there might be room for one or two small wells.

The Minbu Oil Company have about three wells in Block 47, in one of which the yield exceeded 1,000 gallons. Small "shows" of oil were found in the others. The north-west corner of this block will probably yield a few moderately good paying wells as soon as the correct lie of the oil pools has been accurately estimated.

The anticline has now risen considerably, and Block 50 probably encloses oil territory of some value. Only two wells have, up to date, been sunk by the Minbu Oil Company; one was a failure and produced water only, but the other yielded 10,000 gallons of oil in the first twenty-four hours, the latter being shut down at first on account of the "roiliness" or emulsification of the oil showed a pressure of 355 lbs. per square inch. A third bore is being sunk.

The anticline has nearly reached a maximum altitude in Block 57, and this should be a valuable block. The Minbu Oil Company have, up to the date at which this is written, sunk two wells. One of these was a "dry hole," but the other flowed during the first twenty-four hours 18,000 gallons of an emulsion of oil and water known in America as "roily oil"; of this about two-thirds consisted of water. The "roiliness" is, in all probability, produced when a well is first opened by the action of gas upon oil and water entering the bore hole at the same time, but can usually be prevented by alternately shutting down and opening up the well.

Block 60 is held by the Rangoon Oil Company, but has not been much explored as yet. Two wells have been sunk, one to a depth of over 1,800 ft.; the latter obtained no oil. There is no reason why this should not be a good block, as there appears to be no sinking of the fold worth notice. A deep hole was put down by the Minbu Oil Company in Block 61, and gas and a little oil were met with, but not in payable quantities.

In Block 67 oil-sand crops out, and Grimes found burnt earth on Yenandaung, caused by the burning of natural gas by the Burmans the previous year. The ground was quite hot, and there was a strong smell of petroleum. The Rangoon Oil Company have put down four wells, of which two had to be abandoned on account of drilling accidents. One yielded eighty barrels the first twenty-four hours; the oil for the first two hours is reported to have been pure, but afterwards

became "roily." It is not improbable that in this area a water sand is very close to the gassy oil sand, causing an emulsion as soon as pressure is relieved and the fluids set in motion. That the "roiliness" is not originally present but results from the tapping of the sand is shown by the fact that in this well the oil was at first unmixed with water. A thin seam of coal was found in another well at about 1,600 ft. Results so far been a little disappointing, but this area is decidedly worth further exploration. In Block 66, about 1,150 ft. west of the crest, a well put down by the Burma Oil Company encountered oil and gas at various horizons and a considerable amount of water; the yield was estimated at about 40 barrels.

A well was also sunk in the extreme south-west corner of Block 70, the results of which are not with me. In Block 71, the Minbu Oil Company obtained gas under strong pressure and a little oil. Grimes was under the impression that the anticline is sinking gently here and northwards, but neither Mr. Cotter nor myself were able to prove this; there may possibly be an extremely gentle fall which increases further north, but it must be almost imperceptible as far as Block 134, since the Burma Oil Company have in the latter block met with strong gas pressure and an excellent yield of oil, which, however, is mixed with water. The amount of oil declined rapidly while the water remained the same. Two wells are being sunk in Block 120 and two in Block 123. Block 138 is also being tested.

The oil from Yenangyat and Singu contains a higher proportion of lighter hydrocarbons than does that from Yenangyaung, and in consequence primary stills were erected by the Burma Oil Company at Singu which is connected with Yenangyat by a pipeline, for the purpose of removing these dangerous ingredients before shipping the oil to Rangoon.

The Burma Oil Company first commenced operations around Yenangyat village in 1891 and apparently obtained oil for the first time in 1893. The following is the production of Yenangyat from 1887 to 1909, the years 1907-9 include supplies from the Sabe area:—

	Native wells. Gallons.	Drilled wells. Gallons.
1887	37,804	None.
1888	44,142	"
1889	44,142	"
1890	44,478	"
1891	47,880	"
1892	51,786	"
1893	45,385	118,409
1894	52,861	283,116
1895	No record.	936,016
1896	"	2,267,451
1897	"	3,517,839
1898	"	6,550,422
1899	"	9,648,069
1900	"	9,703,129
1901	"	11,697,001
1902	46,454	8,104,585
1903	36,590	22,631,722
1904	73,676	18,586,809
1905	54,423	17,521,624
1906	66,624	12,508,872
1907	272,065	8,135,760
1908	238,337	6,340,513
1909	210,073	5,769,176
	1,366,720	144,320,513

The native industry here is a very small one; the "Reserve" occupying a part of Block 9. Dr. Noetting was of opinion that wells were first dug here probably in 1864. (To be continued.)

The Prevention of Waste of Oil and Gas from Flowing Wells in California.

By Messrs. RALPH ARNOLD and V. R. GARFIAS.

METHODS for the prevention of the tremendous waste that usually accompanies the coming in of wells producing large quantities of oil or gas by natural flow fall naturally into two classes, preventive and remedial. The first have to do with keeping under control whatever gas or oil may be encountered in the process of drilling; the second relate to the capping or subduing of wells "blown out" or "gone wild."

Before considering these methods in detail, however, it is well to note the following general conditions affecting flowing gas and oil wells in California, for they have an important bearing on the success of either class of operations:

1. The gas from "gassers" and the gas that generally accompanies the oil is not injurious to health, hence workmen without being harmed may labour near the well.

2. Owing to the tremendous velocity of the stream of gas, the part immediately over the casing head is like a smooth column, and may be approached with safety.

3. The sand usually expelled under tremendous force with the oil or gas often wears out the casings, but this wearing action generally takes place only throughout the uppermost 30 or 40 ft. and opposite or near the place where the gas enters the well, thus leaving the main part of the entire length of the strings practically sound.

4. The great volume and tremendous pressure of the gas and oil make the use of the best fittings a necessity. Some of these, being of special sizes, are made to order.

For convenience, and in accordance with common usage, the flowing oil wells and the gas wells discussed in this paper are designated respectively as "gushers" and "gassers."

With the present state of our knowledge regarding the situation of the "gusher" and "gasser" strata in the developed fields, there is no excuse for the general lack of precautions taken before the depth is reached at which the flow is expected. Furthermore, if the well is being drilled in a new or prospective field, adequate precautions should be taken so as not to jeopardise in advance the possible profits of such an uncertain and expensive undertaking. The additional cost of the safety devices is insignificant in comparison with the total cost of drilling such wells and with the amount that can usually be saved if their rate of production is regulated. It may be safely stated that practically all of the great waste resulting from the unrestricted flow of gassers and gushers can be prevented easily by known means which generally are within reach.

Controlling the rate of production of the well has a direct bearing on the returns to be derived from the

product. There are times when, owing to the market conditions and the transportation and storage facilities, the "bringing in" of the well might be an unwelcome event, as was strikingly shown in the case of the Lake View gusher. Experience also shows that a gasser or gusher will yield a greater total production if allowed to flow only a fraction of its capacity, the famous Huasteca No. 7 well in the Mexican oilfields affording a most remarkable example. At the time of writing, this gusher has been flowing under perfect control for about twenty-eight months, yielding about 23,000 barrels per day under a pressure of about 285 lbs.

One of the most successful apparatus devised with a view to controlling whatever flow of oil or gas is

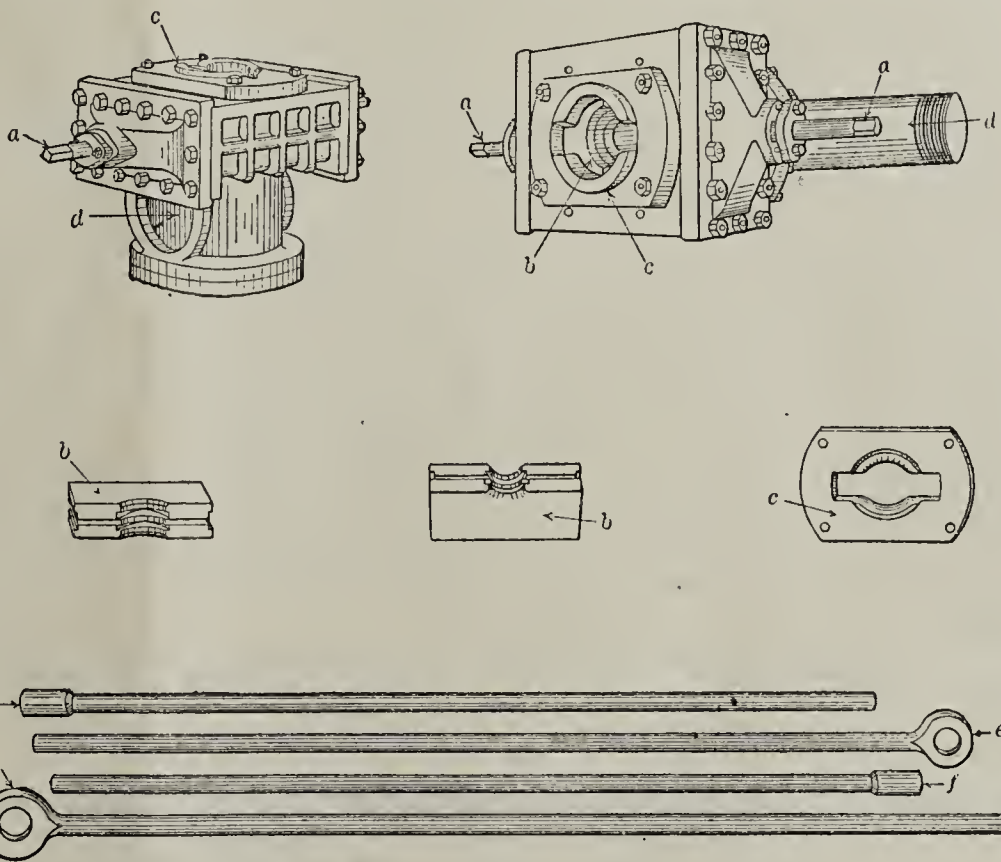


Fig. 1.

encountered is the blow-out preventer, which has given general satisfaction, particularly in drilling by the rotary method.

The blow-out preventer here illustrated is a modified type of a stuffing-box casing head, which in turn is an addition to the four-way T. The immediate object of the preventer is to control the flow of oil or gas between two strings of casing, and naturally its use is better adapted to drilling by the rotary method in which the circulating water keeps an open space between the inner casing and the wall of the hole. An idea of its operation may be gained by imagining a four-way T attached to the top of the last casing set or landed and the inner casing passing through the T, the flow of oil or gas between the casings being deflected to the lateral openings of the T by closing the annular space between the inner casing and the upper part of the T by means of a stuffing box. In the preventer the stuffing box can be removed or put in place by turning adjuster

screws (*a*, fig. 1) which operate slips (*b*, fig. 1) provided with hydraulic packing that fit around the inner casing as an adaptable split valve. To the lower opening are bolted interchangeable screw flanges to fit standard casings from 6 to 12½ in. in diameter, and to the opposite opening are attached suitable guide plates (*c*, fig. 1) to prevent the wearing of the inner parts of the apparatus by the revolving inner casing. These guide plates are made to fit casings from 8 to 12¼ in. in diameter. The lateral openings (*d*, fig. 1) are threaded to fit pipe 6 in. in diameter. The apparatus is manufactured of cast steel and lined with babbitt metal, being tested to stand a pressure of about 2,000 lbs. per square inch. A wrench in two parts (*e*, *f*, fig. 1), which are welded together to the required length, is provided to turn the adjuster screws (*a*, fig. 1).

To insure the successful operation of the preventer, careful attention must be given to all the details, such as welding the bars, fitting the small pins that secure the wrench to the screws, and providing a suitable place outside the derrick for the man who is to operate the wrenches, etc., as soon as the apparatus is put in place.

The preventer, when used, is always placed on the last string of casing set or landed, thus controlling the flow between that string and the drill pipe or casing that is being lowered. The slips should be in a position to be clamped around the drill pipe, but should not be kept too near it, in order to avoid possible damage to the hydraulic packing. If the well is being drilled with a rotary rig, the back-pressure valve inside the drill pipe will effectively prevent any flow upward through this casing, and if the standard rig is used, a heavy gate valve, which can be closed after removing the drilling tools, is placed on top of the inner casing. The only outlet left is the space between the casings, and the flow through this opening can generally be controlled by clamping the split valve of the preventer around the drill pipe and closing the gate valves on the pipes connected to the two lateral openings.

It sometimes becomes necessary to exclude from the drill hole water or gas found in an overlying sand in order to control the well or to recover or test for the

oil below. This end can be easily accomplished in drilling with a rotary rig by forcing muddy water to the bottom of the well through one of the lateral openings of the preventer, the pressure being regulated by closing the valve connected to the other opening. A back-pressure valve in the drill pipe will prevent the flow of the mixture through this casing. By drilling a short distance and forcing as much mud as possible into the porous sands penetrated, a plastered wall of clay is built throughout the gas-bearing or water-bearing strata. After the entire thickness has been penetrated and the casing landed in an impervious bed, another string may be used to tap the oil sands below. The gas thus excluded can be recovered afterwards by drilling shallower wells to the upper sands.

This method can also be employed in drilling the entire thickness of a gas or oil sand under tremendous pressures, an operation that might otherwise prove troublesome. The mud can easily be removed by releasing the pressure or bailing down the water in the hole, a strainer or perforated casing being placed in the sand to prevent the wall of the well from caving when the pressure is released.

It is often advisable before drilling is continued to ascertain whether certain beds carry oil. The work involved is often accompanied by accidents and loss of time, as the material may collapse and pack around the casing, thus preventing its removal or further lowering. Many such accidents can be avoided and the required tests made by using a preventer or a stuffing-box casing head in the following manner.

After the preventer has been attached to the last casing set, a special shoe about 8 ft. long is attached to the bottom of the inner casing, and this is lowered to the bottom of the hole and driven down into the formation, making a water-tight joint. The split valve of the preventer is then closed. A pump is connected to one of the lateral outlets, the valve on the other being kept closed to control the pressure in the well. Muddy water is then pumped in, and the pressure between the casings is increased in order that the formation will not cave in and "freeze" the inner casing. While the pressure is maintained the column of fluid in the inner casing is bailed out. This fluid being a representative sample of that which came from the formations passed through should show the presence of oil if any has been encountered. Great care should be exercised in bailing, as the casing may happen to be in such condition that it will not withstand the outside water pressure.

(To be continued.)

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The Drilling of Gas and Oil Wells. PROPOSED REGULATIONS FOR AMERICA.

By Messrs. O. P. HOOD and A. G. HEGGEM.

*An Informative -
Bulletin by the -
Washington - - -
Bureau of - - -
Mines. - - -*

(Continued from page 318.)

IF the well inspector receives an objection from a coal operator, or if he is in doubt himself as to whether a proposed location will produce unsafe conditions, an official objection to the location is to be made within the five days and the period for issuing a license is to be extended to ten days. Within this ten days the interested parties are to confer. It was the intent that so far as possible the well inspector should decide on locations, and that the well operator could depend on the issuance of a license to drill within the ten days. However, in cases where a well inspector should be unable to decide, his refusal to issue a license at the end of ten days would allow the whole matter to be brought before the proper court of the county.

The requirement of a resurvey in the case of an unsatisfactory original location is to assure correct record. This requirement would also tend to bring about a well-considered original location in order to avoid the expense of resurvey.

The coal operator is required to furnish to the well inspector the same plats of his mining operations as are usually required to be furnished to the State mine department, in order that the well inspector may know whether a proposed well location is in the immediate neighbourhood of mining operations. The well inspector will in time be able to delimit those areas in which coal-mining interests and well drilling do not coincide, and thus quickly issue licenses to drill in most territory.

In order that gas may not be drawn into the ventilating system of any mine, a minimum distance from mine openings has been provided, and a similar minimum distance to those buildings that are vital to the safety of operation of a mine, so that in case of fire at either wells or mine buildings the risk shall not be increased. If this limitation were imposed for every opening into a coal seam it would be possible, where small country banks are worked, very greatly to restrict the possible drilling area, and for that reason this section was made to apply to coal mines of sufficient size to be artificially ventilated.

It seems evident that a bore hole should not go through any underground hauling way, travelling way, drainage way, or airway, and in order to insure against errors in surveying and location the limitation of 15 ft. from such ways was imposed. This section was the subject of much discussion and it was the general belief that such a bore hole should go through a rib or coal pillar, and that the existence of these several ways implied ribs or pillars of sufficient stability to maintain the mine passageways and, therefore, to protect the ground about the well. Objections were made to implying that if a well were put in solid coal not closer than 15 ft. to a way such a location would be safe and permissible. The general opinion was that if the entry

pillars were of normal proportions such a location would be safe and permissible, but in special or unusual conditions the inspector may refuse to issue a license to drill, and the matter would then be taken into court where the testimony of mining men, and geologists, and other technical and practical evidence could be presented.

A well may be located in an acceptable place and a license to drill may have been issued, but if the drilling of the well is postponed for a long period the location may become unacceptable.

There are two main protections against the possible leakage of gas into a coal mine from a well boring—first, the lack of gas pressure within the casing; and, second, the integrity of the casing itself. To be assured of a lack of pressure within the casing a vent at the top is provided of such a character that it can not be readily closed. In the case of leakage of gas into this casing space, although there is a free vent at the top of the casing, yet gas may be drawn into the mine, provided the casing itself is not intact. This could occur in many ventilating systems where the absolute pressure within the mine due to the suction of the fan is less than the absolute pressure of the atmosphere at the top of the casing. For a safe condition, therefore, dependence must be placed on the integrity of the casing. The casing may be injured by deformation due to movement of the ground, fall of roof, or accident within the mine. It is believed that if the casing is held within an enlarged hole and the space between the hole and the casing filled with a yielding material, such as clay, the danger from rupture is somewhat reduced. Experience with clay for this purpose is, however, so limited, and the use of cement mortar is so much more common, that either material is allowed for this purpose. There is very little evidence on the subject of rupture of casing due to movement of the ground or the fall of roof. Such a danger to casing is certainly remote, as shown by the past experience of well drillers. The deformation that such casing can stand before actual rupture is indicated by the results of the following test, which is reported as having been tried in the Louisiana field.

Two pieces of 8 in. casing, screwed into the usual coupling, were placed on supports 20 ft. apart with the coupling midway between the supports. A force was applied at the coupling to bend the combination, when a deformation of 3 to 5 ft. was possible before the tightness of the casing was destroyed. In another case a casing through a haulage way was struck by mine cars in such a way as to bend the casing some 5 ins. out of line and to flatten the side that was struck so that it was 12 ins. out of line without any leaks opening in the casing.

However, more evidence on the subject of rupture of casings by ground movement is needed.

(To be continued.)

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FOR
LOCOMOTIVES,
LAND PLANTS AND
STEAMSHIPS,

is now a practical commercial proposition. Oil is proved to possess many advantages over coal, all of which mean higher efficiency and greater economy in running costs.

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PETROLEUM PRODUCTS CO., LTD.,
FINSBURY COURT, LONDON, E.C.

NEW ENGLISH COMPANIES.

COPAN OILFIELDS, LTD.

REGISTERED on September 16th, by Charles Stevens and Drayton, 6, Bond Court, Walbrook, E.C. Capital, £50,000 in 5s. shares. Objects: To purchase or otherwise acquire all kinds of oil-bearing lands, or any rights connected with the winning and getting of mineral oil of any kind, and to sink wells, make borings and otherwise search for all kinds of mineral oils and products thereof. Minimum cash subscription: seven shares. Signatories: F. A. Bagnall, Pinners Hall, E.C., A. P. Beaumont, 118, Dalmeny Avenue, Norbury, S.W., H. D. Wallace, 35, Finstock Road, North Kensington, W., F. R. Singleton, 54, Ealing Road, South Ealing, W., G. A. Ken, 29, Gracechurch Street, E.C., F. M. Hose, 20, Lady Somerset Road, Highgate, N., and William James Talbot, 6, Bond Court, Walbrook, E.C. First directors (who are to number not less than two or more than seven) are to be appointed by signatories. Qualification: 100 shares. Registered office: Pinners Hall, Great Winchester Street, E.C.

KAYAN OILFIELDS, LTD.

Registered on September 19th, by Spyer and Sons, Austin Friars House, E.C. Capital, £350,000 in £1 shares. Objects: To purchase or otherwise acquire any oil and petroleum-bearing lands and options over petroleum-producing properties, and to carry on the business of petroleum and oil refiners and merchants; also to enter into an agreement with Alexander Frenzel. Minimum cash subscription: seven shares. First directors (who are to number not less than two or more than nine) are to be appointed by signatories. Qualification of directors, 50 shares. Remuneration of directors, £200 per annum. Chairman, £250.

THE BRITISH AUSTRALIAN OIL COMPANY, LTD.

Registered on September 16th, by Stephenson, Harwood & Co., 31, Lombard Street, E.C. Capital, £300,000, in £1 shares. Objects: To carry on the business of manufacturing, distilling, precipitating, refining or otherwise treating and dealing with crude and refined oils, shale and petroleum, etc., and to enter into an agreement with the British Australian Oil Company, Ltd., and Walter Francis Scott Armstrong. Minimum cash subscription: Seven shares. First directors (who are to number not less than three or more than seven) are John S. H. Banner, Samuel Bibby, John Owen Hickman, Gerald Tatersall Moody and one other person to be appointed by the debenture stockholders of the British Australian Oil Company, Ltd. Qualification: £200. Remuneration: £150 per annum. Chairman: £250. Registered Office: 3, and 4, Lothbury, E.C.

CASEY DEVELOPMENT COMPANY, LTD.

Registered on September 19th, by A. Harris & Co., 32, Bedford Row, W.C. Capital, £100,000, in £1 shares. Objects: To search for and explore grounds supposed to contain oil, and to purchase and turn to account oilfields and oilwells; also to carry on the business of oil merchants and refiners. Minimum cash subscription: seven shares. First directors (who are to number not less than three or more than five) are Albert Woollard, Alfred H. Jones and A. Harris. Qualification: 200 shares. Remuneration: £150. Registered office: 87, Bishopsgate, E.C.

TRIAL TRIP OF THE S.S. "SILVIA."

THE trial trip of the oil tank steamer "Silvia" took place the other day in the presence of Mr. H. A. Bowring (representing the owners), Mr. Avery (agent for Messrs. C. T. Bowring & Co.), Ltd., Captain Gray (representing the charterers), and Mr. Engineer Brown and Mr. Vincent (for the Admiralty). There were also present Mr. Barringer (of Messrs. Jacobs & Barringer, London, the superintendent engineers for the above company), Mr. Bradney (the local representative for Messrs. Jacobs & Barringer), Captain Matthews (the marine superintendent for Messrs. C. T. Bowring & Co., Ltd., Liverpool), Mr. J. Bourn (the general manager of the Tyne Iron Shipbuilding Company, Ltd., representing the builders), and Mr. Summers Hunter (the managing director of the North-Eastern Marine Engineering Company, Ltd.); also Mr. Wimble and Mr. Daglish. The vessel is 367 ft. long, 51 ft. breadth, and 32 ft. 4 in. depth, moulded. The vessel, which has been built to the order of Messrs. C. T. Bowring & Co., Ltd., Liverpool and London, is designed for the purpose of carrying petroleum and other oils in bulk, and is built on the Isherwood patent system of longitudinal framing, and to the highest classification at Lloyd's. The vessel is fitted with a very complete oil-pumping installation, including oil pumps of large size for working against a heavy back pressure, and is also fitted with a complete system of steam-heating coils throughout oil tanks and oil-fuel bunkers. The accommodation, which is much superior to the ordinary class of vessel, has been carried out to the special requirements of the owners, and includes steam heating and electric light. The machinery, which has been constructed by the North-Eastern Marine Engineering Company, Ltd., consists of engines of their latest design, having cylinders 27 in., 45 in., and 74 in. by 48 in. stroke, with three large single-ended boilers working at a pressure of 180 lbs.

In a series of runs over the measured mile the average speed attained in loaded condition was over 11 knots. The trial was considered very satisfactory.

THE OUTPUT OF ROUMANIAN REFINERIES.

Statistics for July.

DURING July there were treated in the Roumanian refineries 112,786 tons of crude oil, from which 111,089 tons of products were obtained. The following table shows the details of the deliveries for inner consumption and stocks:—

	Produced in the Refineries. Tons.	Delivered for Inner Consumption. Tons.	Used for fuel in the Refineries. Tons.	In Store on July 31st. Tons.
Benzine ...	27,344	2,878	—	70,237
Kerosene ...	23,372	2,400	—	135,779
Lubricating oil ...	4,561	2,564	—	24,521
Residuals ...	55,813	44,682	8,548	22,109
Totals ...	111,090	52,524	8,548	322,646

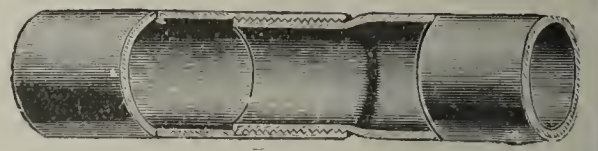
Russian-American Petroleum Society.—The year 1912-13 of this company's activity shows a net profit of 48,760 roubles. Sixty roubles per share, or 6 per cent. on the capital of 375,000 roubles, were distributed to shareholders.



Mannesmannröhren-Werke,



DÜSSELDORF.



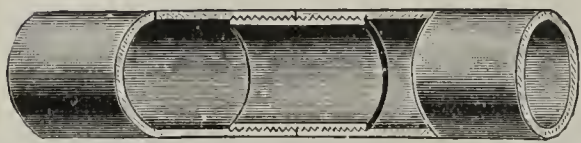
WELDLESS STEEL TUBES

LONG LENGTHS.

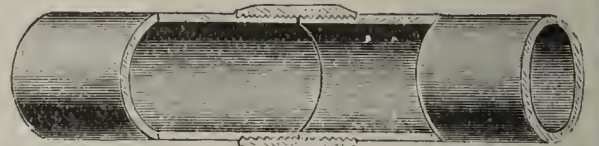
GREAT RESISTANCE.

LIGHT WEIGHT.

Well-Boring Tubes and Rods.



Pipe Lines.



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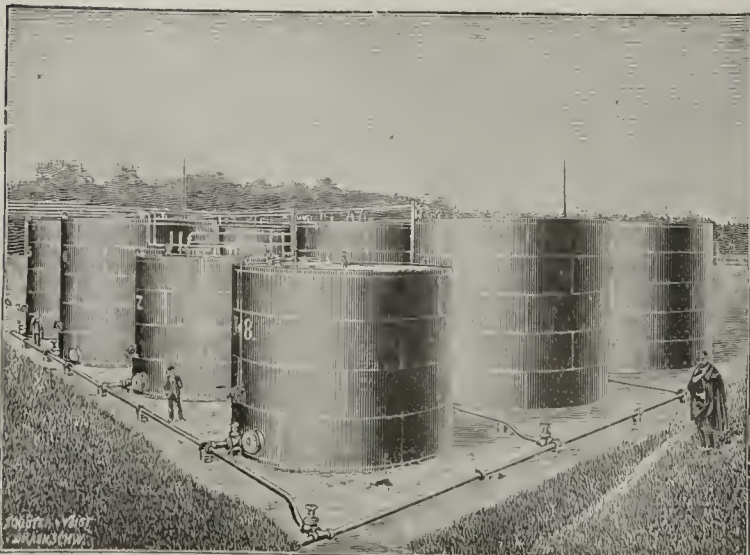
TANK INSTALLATIONS

. . . FOR . . .

KEROSENE, BENZINE,
LUBRICATING OILS, Etc.

Refineries

DISTILLATION
APPARATUS.



The American Oil Market.

Saturday, September 13th, 1913.

THE only feature of particular interest in the crude situation during the week has been the report of pipeline operations for August, says the *Oil Paint and Drug Reporter*. In practically every instance, so far as the high-grade fields are concerned, last month's runs from the wells were below the returns for July. Deliveries showed a variance, increases being noted in some of the fields and declines in others. The general aggregate of stocks at the close of August in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana amounted to 9,948,057 barrels, showing a gain of 186,286 barrels, as compared with the report for a month ago. At the close of August, 1912, however, stocks amounted to 11,315,925 barrels. Of further interest in the pipeline conditions are the records for the eight months of this year, as compared with the corresponding period last year. In every instance, except that of Kentucky, the runs in the Eastern fields so far this year show a decline; the greatest disparagement is noted in the Illinois figures, the total so far this year being more than 1,800,000 barrels below that of the same time in 1912.

The Lima fields of North-western Ohio and Indiana contributed little of new interest to the week's review. There was a decline in completions and new productions in both sections, the greatest setback being noted in Indiana. The Sullivan county development in this State was marred by a single completion, which came in a duster. In the Ohio end all the fifteen new wells were in the producing class, but the aggregate was light, 185 barrels, much below the average of the producing wells of the former week. The continuation of the dry spell still operates to the disadvantage of Illinois field work. Wildcat drilling throughout the counties, apart from the producing limits, has been delayed, and with little so far to encourage this character of operations, there is slight promise for any marked revival for the balance of the year. Some test work, however, is promised near the Wabash River next spring. Lawrence county continues the most prolific source of new production, and while it holds the lead in completions, Crawford county is proving a close second in the latter respect.

Despite the immense production of the California fields, about 8,500,000 barrels a month, the situation does not seem to occasion much concern. Many of the operators contend that this rate cannot be maintained and that the production is on a steadily advancing tendency. The outlook, however, does not appear bright for the low gravity producer, as several big wells have been brought in to upset the prospect of bridging the gap between production and deliveries, and little relief is now looked for until next year. Fulfilling the conditions of the Pipeline Common Carrier Law in

California seems to be making slow progress. Some of the transportation companies are expected to oppose the right of carrying outside oil until they are convinced that the law imposes this obligation. One of the largest transactions of the year in the State is reported in the consummation of the sale of several thousand acres scattered in Ventura county and Sunset-Midway field, together with a number of wells having an aggregate output of 40,000 barrels a month. The purchaser was a Philadelphia concern organised to take over the various properties.

Refined Products.

Conditions in the local market for illuminating oil have undergone no practical development during the week, and the general movement has not departed from a routine course. Lack of sufficient shipping facilities tends to exercise an influence upon the foreign outlet, although charters booked during the week indicated some improvement in tonnage conditions. The largest booking was for China, for which the charter situation has been especially tight, and for which fairly good quantities of refined oil are believed to be wanted.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. Sept. 13.	1913. Sept. 13.
Pennsylvania	\$1.60	\$2.50
North Lima	1.04	1.39
South Lima	0.99	1.34
Indiana	0.99	1.34
Illinois, above 30 degrees	0.87	1.30
Kansas and Oklahoma	0.70	1.03
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex.	0.75	0.90
Californian, Coalinga light	0.65	0.60
" Kern River heavy	0.35	0.35
CANADIAN OIL	1.44	1.79

REFINED—FOR EXPORT.

In cents.	Week ended Sept. 13	
	S.W.	W.W.
	110 test.	150 test.
Bulk, New York per gal.	5'00	6'00
Barrels, New York, cargo	8'70	9'70
Barrels, Philadelphia	8'70	9'70
Cases, New York	11'00	12'00
Cases, Philadelphia	11'00	12'00

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000	\$11.15
1,000 to 3,000	11.25

REFINED—JOBBER LOTS.

In barrels, pkgs. included.

130 fire test, S.W.	11½
150 fire test, W.W.	12
From tank wagons	8½-9

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29½

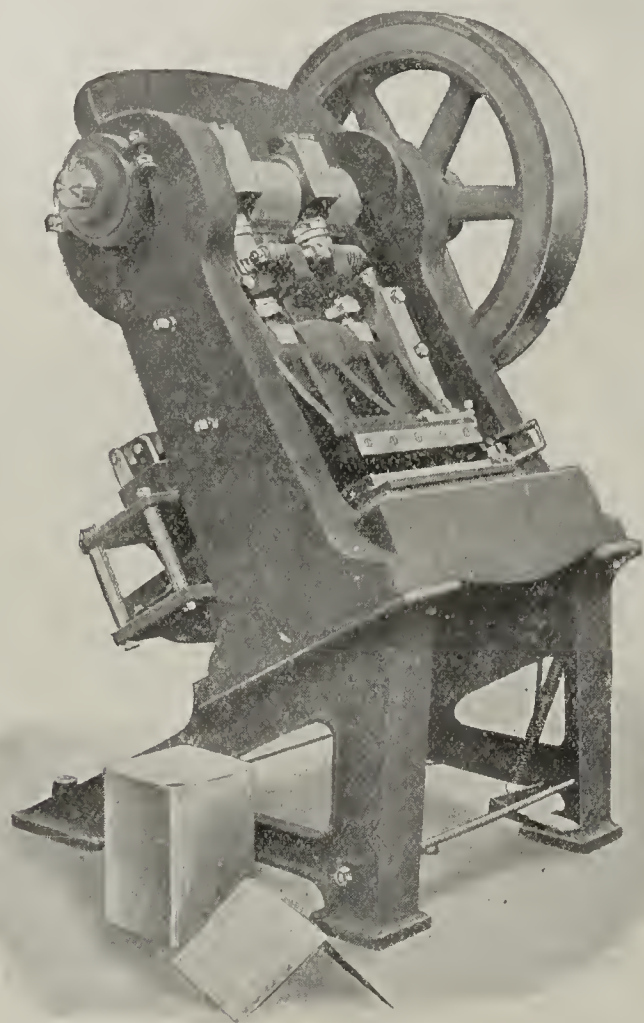
TOTAL EXPORTS.

	Current week.	Since Jan. 1, 1913.	Since Jan. 1, 1912.
	Gallons.	Gallons.	Gallons.
Crude	854,050	104,823,414	88,865,740
Refined	15,714,585	621,307,247	632,995,520
Naphtha	5,628,375	77,865,280	105,032,435
Gas oil	932,510	23,222,880	45,901,780
Fuel oil... ..	3,917,500	98,446,460	52,644,030

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LIVERPOOL, LONDON & GLASGOW.

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Body Panelling Press with
Automatic Bending Device.

“ RHODES ” Can-Making Plants.

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GUARANTEED MORE MODERN THAN
AMERICAN MAKE.

N.B.—We will send our plants ON APPROVAL to make Petroleum Cans, and undertake to beat any American-made plant on every point, viz., MORE MODERN Machinery, HIGHER QUALITY Machinery, MAXIMUM OUTPUT per Machine, LOWER PRICES.

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PARIS: Choureaux, 3, Rue du Souvenir, Asnieres, Seine.

H. E. MOSS & CO.,

Brokers for the Building, Purchasing
and Chartering of Oil Tank Steamers.

Managing Owners of the—

Tank Steamer “LUCIGEN”	...	6,500 Tons Oil Capacity
Tank Steamer “LUCELLUM”	...	6,500 Tons Oil Capacity
Tank Steamer “ASTRAKHAN”	...	4,500 Tons Oil Capacity
Tank Steamer “ARAL”	...	3,750 Tons Oil Capacity
Tank Steamer “LUMEN”	...	3,200 Tons Oil Capacity

Also Brokers for the sale, purchase, construction and chartering of steamers and sailing-ships.

18, Chapel Street, LIVERPOOL;
43, St. Mary Axe, LONDON, E.C.; and
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Code: A B C, 5th Edition

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“GRIP” Soldering Fluid.

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

September 26th, 1913.

The current prices of Refined Petroleum remain unchanged : — Roumanian, 8d.; American, 8½d.; Russian, 8¾d.; Galician, 8¼d.; American Water White, 9½d.

LUBRICATING OILS.

Prices remain the same as follows :—

- No. 1 Russian, £12. 2s. 6d.
- No. 2 Russian, £10. 17s. 6d.
- American pale, from £9. 12s. 6d.
- American dark, from £11. 2s. 6d.
- American filtered cylinder, from £13. 12s. 6d.

FUEL OIL

is quoted 70s. per ton, in bulk, ex wharf.

GREASE-MAKING OIL.

The official price is 80s. per ton, in bulk, ex wharf.

MOTOR SPIRIT

The retail price for best quality is 1s. 9d. per gallon, in London, 1s. 7d. per gallon for the second quality.

TURPENTINE.

American Turpentine, spot 29s. 6d.; October/December, 30s.; January/April, 31s.

LIVERPOOL.

September 25th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8¾d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, August 27th.

The following are the current prices of the Standard Oil Company of New York :—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows :—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production :—

	Bazaar Rates—Delivery charges extra.	Rs.	a.	p.
Kerosene Oil "Waterlily," per case of two tins	...	5	4	0
" Firefly, per case of two tins	...	4	15	0
" Chukker, per two tins	...	4	5	0
" " per 8 gallons	...	3	11	0
" Victoria, per two tins	...	3	11	6
" " per 8 gallons	...	3	1	6
Burmah Wax, per pound, 1st quality	...	0	4	0
" " " 2nd quality	...	0	3	0
" Candles, per pound	...	0	4	0

AMERICA.

NEW YORK, September 25th.

Oklahoma crude is still quoted at \$1.03 per barrel. Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, September 25th.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, September 23rd.

The petroleum prices have remained firm. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, September 23rd.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 56½–57 copecs per pood spot. Mazout, 54–54½ copecs. Kerosene, 71–72 copecs.

ROUMANIA. September 23rd.

The export of petroleum is for the moment very restricted. The latest prices are :—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Bushtenari	Francs.
" " " Moreni	...	6.00–6.50
" " " Tzintea	...	4.30–4.60
" " " Policiori	...	4.25
" " " Bana	0.850	8.75
Paraffin	...	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	27.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	24.00–25.00
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	17.50
Residuals, f.o.b. Constanza	...	6.00
Gas Oil	...	8.00

AUSTRIA. September 23rd.

Crude oil is quoted 9.20 kronen spot. Kerosene, 31.50 kronen at Oderberg. Benzine, 690/700, 44 kronen; 750/760, 22 kronen, at Oderberg. Gas oil, 7.00 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, E.C., report under date September 25th as under :—

The position of the market is unchanged, and prices of oil plates are steady at last week's rates, viz. :—

1c	18¾ × 14	124 sheets	110 lbs.	13/6 per box.
1c	20 × 10	225 "	156 "	19/3 "

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

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FOR THE WEEK ENDED SEPTEMBER 22ND, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIPTION.	NO. OF GALS.	PORT WHENCE.
Sept.	LONDON—			
16	Price's Patent Candle Co. ...	Lub.	6,000	S. Petersburg
16	United Shipping Co. ...	"	240	Riga
16	Port Authority ...	"	480	Marseilles
16	" ...	"	7,400	New York
16	Mercantile Lighterage Co. ...	"	3,000	"
16	Scott's Wharf ...	"	7,500	"
16	Anglo-American Oil Co. ...	"	23,360	"
16	" ...	"	58,600	Philadel.
17	" ...	Fuel	122,900	New York
17	" ...	Gas	1,078,290	"
17	Produce Brokers Co. ...	Lub.	4,000	Philadel.
17	Vacuum Oil Co. ...	Lub. Oil and Gr.	50,160	New York
18	E. G. Boize ...	Lub. Gr.	800	Hamburg
18	Hanseatic Maritime Agency	Lub.	40	Bremen
18	Vacuum Oil Co. ...	"	9,010	Philadel.
18	S. Capon ...	"	2,200	"
18	Anglo-Mexican Petroleum Products Co.	Fuel	165,209	P. Mexico
19	A. Duckham & Co. ...	Lub.	1,600	Antwerp
20	British Petroleum Co. ...	Gas	1,926,000	Port Arthur
20	Anglo-American Oil Co. ...	"	1,123,409	Sabine
20	Scott's Wharf ...	Lub.	5,000	New York
20	F. Chiesman & Co. ...	"	6,530	"
20	Trinidad Lake Asphalt Co. ...	"	5,200	Philadel.
20	Craven & Co. ...	"	560	Hamburg
20	Port Authority ...	"	400	"
20	" ...	"	40	Antwerp
20	Anglo-American Oil Co. ...	Benzine	630,310	New York
20	" ...	Naphtha	2,181,210	"
20	" ...	"	400	Sabine
22	" ...	Lub.	11,840	New York
22	" ...	Lamp	1,634,830	"
22	" ...	Gas	710,840	"
22	" ...	Lub.	19,840	Philadel.
22	Bramwell, Fern & Co. ...	"	9,100	"
22	Lubricating & Fuel Oils Co. ...	"	33,300	"
22	Bowring Petroleum Co. ...	"	2,640	"
22	Port Authority ...	"	3,840	Hamburg
22	Lubricating & Fuel Oils Co. ...	"	343,000	"
22	Snowdon, Sons & Co. ...	"	3,730	Antwerp
22	P. Brancher ...	Lub. Gr.	500	"
22	Mordaunt Bros. ...	Lub.	5,000	New York
22	Langley, Smith & Co. ...	"	4,470	"
22	Produce Brokers Co. ...	"	5,000	"
	LIVERPOOL—			
16	C. C. Wakefield & Co. ...	Lub. Gr.	70	Antwerp
16	Meade-King, Robinson & Co. ...	Lub.	1,560	New York
16	" ...	"	10,400	Hamburg
16	Bowring Petroleum Co. ...	"	2,070	"
17	Dee Oil Co. ...	"	240	"
17	Pickford's ...	Lub. Oil and Paste	390	"
17	Liverpool Warehousing Co. ...	Lub.	2,000	New York
17	Anglo-American Oil Co. ...	"	2,160	"
18	Meade-King, Robinson & Co. ...	"	19,160	Philadel.
18	Bancroft & Co. ...	"	560	Hamburg
19	Valvoline Oil Co. ...	"	14,150	New York
19	Vacuum Oil Co. ...	"	49,060	"
19	Burnyeat & Dalzell ...	"	260	Bergen
22	Anglo-American Oil Co. ...	"	49,160	New York
22	A. Hopps & Sons ...	M. Colza	2,600	Baltimore
22	" ...	"	1,600	"
22	" ...	Lub.	10,520	"
22	Huxley & Co. ...	"	1,090	New York
22	" ...	"	710	Hamburg
22	Pickford's ...	Lub. Oil and Paste	210	"
22	" ...	Lub.	250	Antwerp
22	C. W. Field ...	"	200	"
	BARROW—			
14/7	Anglo-American Oil Co. ...	Lamp	5,370	Sabine
19	Asiatic Petroleum Co. ...	Benzine	1,264,000	P. Samboe
	BRISTOL—			
16	Asiatic Petroleum Co. ...	"	690,000	P. Samboe
17	J. & R. Bush ...	Lub.	45,200	New York
17	" ...	Lamp	10,000	"
17	Anglo-Bosphorus Oil Co. ...	Lub.	120	"
17	" ...	"	1,980	Antwerp
19	" ...	"	240	Hamburg
20	C. Hill & Sons ...	"	9,400	New York
20	W. G. Clarke ...	"	1,470	Antwerp
22	Ford & Canning ...	"	6,600	New York

DATE.	PORT AND IMPORTERS.	DESCRIPTION.	NO. OF GALS.	PORT WHENCE.
Sept.	BRISTOL—			
22	C. Hill & Sons ...	M. Colza	4,400	New York
22	" ...	Lub.	2,000	"
22	Ford & Canning ...	"	1,890	"
	BOSTON—			
20	W. F. Beaumont ...	"	200	Hamburg
	CARDIFF—			
19	Furness, Withy & Co. ...	M. Colza	510	Antwerp
19	" ...	Lub. Gr.	200	"
	HARWICH—			
17	Great Eastern Railway ...	Lub.	240	"
18	" ...	"	80	"
20	" ...	"	240	"
22	" ...	"	1,420	"
22	" ...	"	2,400	Hamburg
	HULL—			
16	W. Gilyott & Co. ...	"	2,660	New York
16	T. Wilson, Sons & Co. ...	"	2,720	"
17	" ...	"	5,400	"
17	Hull & Netherlands Steamship Co.	"	240	Rotterdam
	MANCHESTER—			
25/7	G. B. Taylor ...	M. Colza	4,000	New York
16	D. Currie & Co. ...	Lub.	490	Hamburg
17	Liverpool Storage Co. ...	"	13,330	New York
17	G. B. Taylor ...	"	1,200	"
	MIDDLESBROUGH—			
19	E. Harris & Co. ...	"	800	Antwerp
	NEWCASTLE—			
13	Tyne-Tees Steamship Co. ...	"	80	Hamburg
16	" ...	"	3,720	Antwerp
16	P. H. Matthiessen & Co. ...	"	220	Bergen
16	" ...	"	480	"
	PLYMOUTH—			
16	T. Nicholson & Co. ...	"	50	Hamburg
	PORTSMOUTH—			
19	Bristol Steam Navig. Co. ...	"	70	"
	ABERDEEN—			
15	R. C. Reid & Co. ...	"	400	"
	DUNDEE—			
18	D. Alexander & Sons ...	"	200	"
	GLASGOW—			
16	Clyde Shipping Co. ...	Lub. Oil and Gr.	3,920	Antwerp
22	Anchor Line ...	Lub.	26,000	New York
22	" ...	M. Colza	1,200	"
	GRANGEMOUTH—			
18	Jas. Currie & Co. ...	Lub.	200	Hamburg
	LEITH—			
16	G. Gibson & Co. ...	"	4,960	Antwerp
16	" ...	"	1,200	Ghent
16	Jas. Currie & Co. ...	"	40	Hamburg
22	" ...	"	720	"
22	" ...	"	240	"
22	W. G. Yooll & Co. ...	Lamp	4,360	"
	HULL—			
18	T. Wilson, Sons & Co. ...	Lub.	120	Bergen
18	Wilson's & N. E. Railway ...	"	4,080	Hamburg
22	" ...	"	760	"
22	" ...	"	120	Ghent
			12,528,120	
	Deduct—			
	BARROW—			
21/7	British Petroleum Co. ...	Fuel	23,243	Singapore
	MANCHESTER—			
28/7	G. B. Taylor ...	Lub.	4,000	New York
	DUBLIN—			
8/8	British Petroleum Co. ...	Gas	34,170	Port Arthur
			12,466,707	

The Petroleum Review Directory.

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BORING TOOLS.

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Galizische Karpathen Petroleum-Actiengesellschaft,
Glinik Maryampolski, Galicia, Austria.

Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.
Oil Well Supply Co. (Pittsburgh), Dashwood House,
London, E.C.

Thom, John M., Patricroft, near Manchester.
Trauzl & Co., Vienna.

BUILDINGS.

Boulton & Paul, Ltd., Norwich.

CHEMICALS.

Spencer, Chapman & Messel, Ltd., 36, Mark Lane,
London, E.C.

DRILLING MACHINERY.

Deep Well Tool and Boring Co., Ltd., St. Albans.
Fraser & Chalmers, Ltd., 3, London Wall Buildings,
London Wall, E.C.

Marshall, Son & Co., Ltd., Britannia Works, Gainsborough (Boilers and Steam Engines).

Oil Well Supply Co. (Pittsburgh), Dashwood House,
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LAMP OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.

Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.

Homelight Oil Co., Ltd., 14, St. Mary Axe, E.C.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

LIQUID FUEL BURNERS.

Kermode's Liquid Fuel System, 35, The Temple, Dale Street, Liverpool.

LIQUID FUEL IMPORTERS.

The Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.

Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.

Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.

LIQUID FUEL INSTALLATIONS.

The Wallsend Shipway and Engineering Co., Ltd., Wallsend-on-Tyne.

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Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.

Bramwell, Fern & Co., London, Manchester and Liverpool.

Continental Petroleum Co., 13, Rue des Douze Mols, Antwerp.

Crew Levick Co., Irwell Chambers, W. Liverpool.

Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.

Meade, King, Robinson & Co., 22, Water Street, Liverpool, and Manchester.

The Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Work Co., Pittsburgh, Pa., U.S.A.

Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL BROKERS.

Benjamin & Gee, 31, St. Mary Axe, E.C.

Bramwell, Fern & Co., London, Manchester and Liverpool.

Laue & Macandrew, 26, Great St. Helen's, E.C.

OIL EXPORTERS.

Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Works Co., Pittsburgh, Pa., U.S.A.

OIL ENGINES.

Norris & Henty, 87, Queen Victoria Street, E.C.

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OILS.

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Anglo-Maikop Corporation, Ltd., 7, Angel Court, E.C.

Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.

Continental Petroleum Co., 13, Rue des Douze Mols, Antwerp.

Crew Levick Co., Irwell Chambers, W. Liverpool.

Homelight Oil Co., Ltd., 14-20, St. Mary Axe, E.C.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

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OIL PIPELINES.

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Stewarts & Lloyds, Ltd., 41, Oswald Street Glasgow.

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The United Flexible Metallic Tubing Co., Ltd., 112, Queen Victoria Street, E.C.

Willcox, W. H., & Co., 32 to 38, Southwark Street, S.E.

PUMPS.

Hayward-Tyler & Co., Ltd., 99, Queen Victoria Street, London, E.C.

Lee Howl & Co., Ltd., 110, Cannon Street, E.C.

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RAILWAY TANK WAGONS.

Hurst, Nelson & Co., Ltd., The Glasgow Rolling Stock and Plant Works, Motherwell; Northern Assurance Buildings, Albert Square, Manchester; and 14, Leadenhall Street, London, E.C.

RUSSIAN OIL IMPORTERS.

British Petroleum Co., Ltd., 22, Fenchurch Street, E.C.

Homelight Oil Co., Ltd., 14, St. Mary Axe, London, E.C.

SHIP BROKERS.

Gibson, E. A., & Co., 22, Billiter Street, London, E.C.

Lane & Macandrew, 26, Great St. Helen's, E.C.

Moss, H. E., & Co., Liverpool, London and Newcastle.

STORAGE ACCOMMODATION.

Liverpool Storage Co., Ltd., Birkenhead, Manchester, Bootle, Liverpool.

Victoria Petroleum Co., Ltd., Liverpool and Cardiff.

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Dampfkessel und Gasometer Fabrik. Act. Ges.-Braunschweig, Germany.

Walker, C. W., Ltd., Donnington, near Newport, Salop.

Whessoe Foundry Co., Ltd., Darlington.

TIN PLATES.

Norton, Owen & Co., 4, Bishopsgate Street Within, E.C.

Prior, S. J. B., 5, Laurence Pountney Hill, E.C.

TRAM AND WAGON GREASE.

Goodall & Simpson, Ferry Road Oil Works, Cardiff.

TUBES (STEEL AND IRON).

Deutsche - Oesterreichische Mannesmannröhren Werke, Düsseldorf, Germany.

Russell, John, & Co., Ltd., Alma Tube Works, Walsall.

Spencer, John, Ltd., Globe Tube Works, Wednesbury.

Thom, John M., Patricroft, near Manchester.

WAXES.

Benjamin & Gee, 31, St. Mary Axe, E.C.

WIRE ROPES.

Glaholm & Robson, Ltd., Sunderland, London Office: Finsbury Court, Finsbury Pavement, London, E.C.

Smith, Thos. & Wm., Guildhall, Newcastle-on-Tyne.

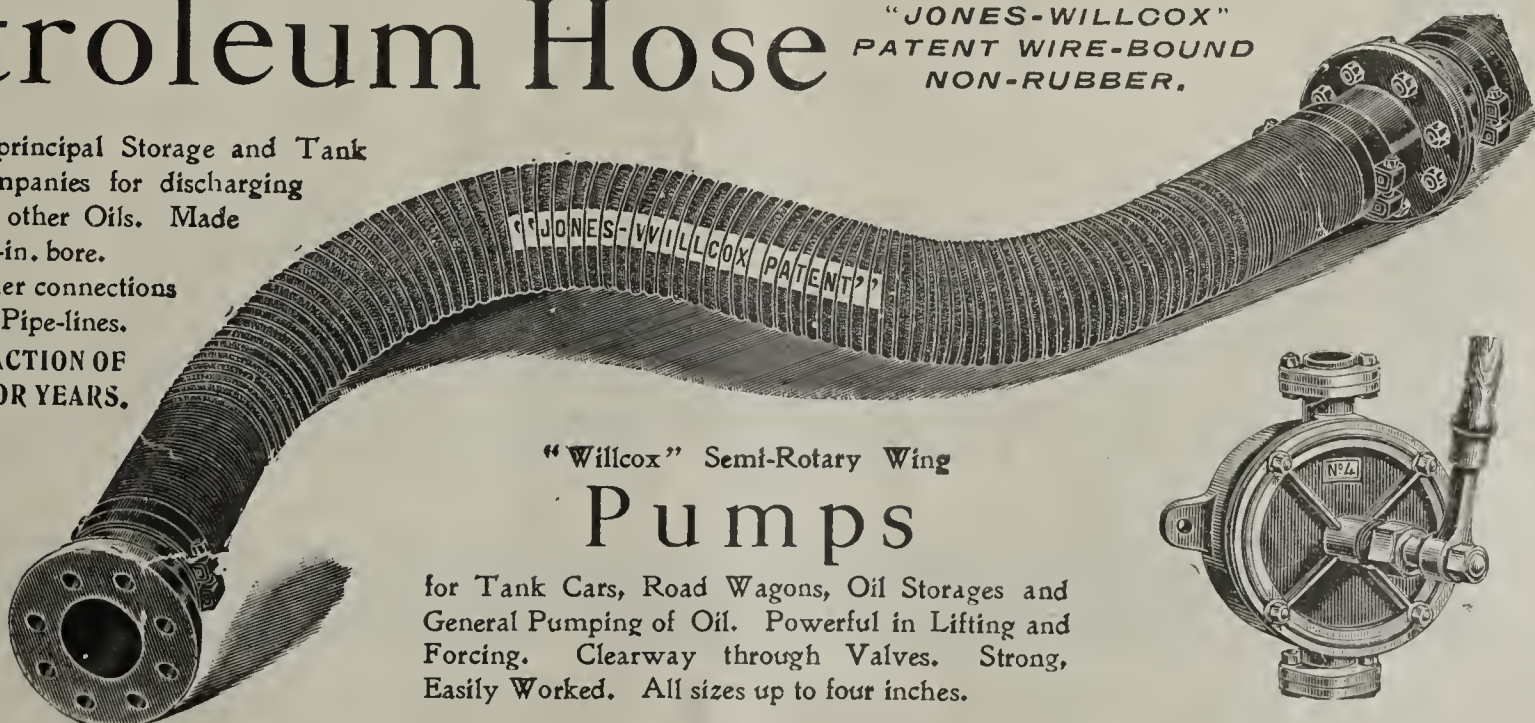
Wright, J. & E., Ltd., Universe Works, Garrison Street, Birmingham.

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Head Offices: **PITTSBURGH.**

The Petroleum Review.

Founded by PAUL DVORKOVITZ.

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THE PETROLEUM REVIEW.

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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

The First of England's Oil-Burning Cruisers.

THE adoption of liquid fuel for Admiralty needs continues its career of progress, and during the present week the first oil-burning cruiser for the Admiralty, the "Aurora," has been launched from the Devonport dockyard. The "Aurora," which was laid down in October last, by the wife of the First Lord, is 410 ft. long, and will have a sea speed of 29 knots, obtained with turbines of 30,000 horse-power. Owing to the saving of weight resulting from the entire substitution of liquid fuel for coal, a powerful armament of 6-in. and 4-in. guns will be mounted on the moderate displacement of about 3,500 tons, while the sides will be protected by an armour belt 5-in. thick amidships tapering to 2½-in. at the ends. The "Aurora" is one of eight armoured cruisers which will exclusively burn oil in their furnaces.

The Standard and California.

SOME interesting details have recently been placed on record with reference to the important position occupied by the Standard Oil Company in California's oil industry, for it has filed a comprehensive statement respecting pipeline rates with the State Railroad Commission. In the development of the Company's business in California it has spent a sum of over \$25,000,000, and for the past two years it has handled over thirty per cent. of the total quantity of crude oil produced by the State. It owns three refineries at Port Richmond, El Segundo, and Seguro. The former refining plant has a capacity of 60,000 barrels of oil per day, while the combined capacities of its other two refining plants are 15,000 barrels daily. In spite of the large quantities of crude oil necessary to keep the three refineries in full running order, the whole of the plants are now operated continuously twenty-four hours per day all the year round. The greater part of the

refined products find a ready market in the Orient, but other portions go to the Hawaiian Islands, British Columbia, and Central and South America. The enormous trade which the Standard Oil Company has recently built up in California is eloquent testimony of the fact that there is in the State plenty of room for large producing and marketing companies.

New Zealand Oil.

WE publish in our news columns the latest particulars of important developments in the oil-fields of New Zealand. Hitherto practically nothing has been published in this country concerning the operations of the past year, and it is only during the last few weeks that reports reaching London have shown that the New Plymouth refinery, which has been erected in twelve months, has been successfully started and that drilling work on a considerable scale is being done by a number of companies in the oilfields at Taranaki. The chief company is the Taranaki (N.Z.) Oil Wells, Ltd., of which the Earl of Ranfurly, K.C.M.G., is the chairman, and there is no doubt that the good results which have already been achieved are largely due to the enthusiasm and expert knowledge of the directors and the company's staff. The other companies at Taranaki are working with every prospect of success, and it is satisfactory to know that drilling for oil is being started in other parts of the North Island.

Gasoline from Oklahoma Wells.

THE activity in the production of gasoline or motor spirit from oilfield gases, which is now one of the chief characteristics in the Californian fields, has spread eastward, and at the time of writing it seems probable that in Oklahoma and other fields in the mid-continent this latest form of producing motor spirit will soon become one of the most remunerative branches in connection with oilfield exploitation. Already several condensing plants have been laid down in Oklahoma, and we understand that in the near future many of the large oil-producing firms will adopt the new process for recovering the volatile hydrocarbons, for which there is an enormous and highly profitable market. It is only two years ago that the officials of the United States Geological Survey bewailed the enormous waste of natural gas which daily occurs in the American fields: it is evident, however, that this waste has already been greatly minimised by the condensation of the casing-head gas, and in a few years it is a certainty that any appreciable quantity of gas coming from oil wells will be immediately turned into commercial and profitable account. We believe that a vast field for successful activity awaits those enterprising concerns which lay themselves out to operate extensively in this direction.

**Substantial
Increase in
the Maikop
Victory Co.'s
Production.**

IN a circular to the shareholders the directors of the Maikop Victory Company state that in regard to the purchase of the three producing plots from the Maikop Spies Company, it was one of the terms of the agreement

that no official announcement as to the sellers should be made by the company until the 30th of September. Having given particulars of the purchase, which have been already published, the circular states that the production for the week ending July 19th, when the Maikop Spies plots were taken over, was 10,345 poods. For the week ending September 20th the production was 12,432 poods, or an increase of 20 per cent. since the wells came under the management of the Victory Company. In future the output from the new plots will be included in the weekly production figures. Work has been commenced on two new wells on plot 488, and a further well is also being drilled on plot 489. The wells on plots 387 and 532, which are part of the company's original area, are down 852 ft. and 745 ft. respectively. The company's engineers advise that it is almost certain oil will be struck on plot 532. Mr. Geo. Tweedy, managing director, who is now in Maikop, reports that the development operations are progressing satisfactorily, and that there is every reason for anticipating a substantial increase in the company's production during the next three months.

DEVELOPMENTS IN NEW ZEALAND.

THE Taranaki Oil Wells Company has just received another enquiry from the Government railways for benzine of which the Government uses a great deal yearly. The company is forwarding the benzine this week. The department has also ordered a quantity of colza oil for lubricating purposes. This is being supplied. The refinery is running splendidly, the output being quite up to expectation. Very good progress was made at the company's bores last week. The rotary bore, which is now down 420 ft., has made rapid progress in the hardest formation yet experienced. The depth at the bore the previous week was only 170 ft. No. 1 bore at Bell Block is now down to a depth of 2,830 ft., with a better showing of gas, and No. 2 bore is down 2,365 ft., with a considerable pressure of gas and improved indications.

PERSONAL ITEMS.

Mr. C. T. WILLANS, the manager for the New Zealand Oilfields, Ltd., arrived at Plymouth this week from New Zealand, by the s.s. "Ruahine."

DR. DVORKOVITZ, who has been for several weeks upon a tour of the Russian oilfields, is expected to return to London during the course of next week.

MR. GEORGE TWEEDY is at present upon a stay in the Maikop oilfields, from which he is expected to return in a few weeks' time.

Mr. D. G. MCNAUGHTON, who has been spending the past few months at his home in Victoria, Canada, has left London to return to Persia, on behalf of the Anglo-Persian oil interests.

CHAS. N. GOULD, Ph.D.,

Former State Geologist of Oklahoma. 20 Years' Experience.

Developed and Undeveloped Oil Properties in the
MID-CONTINENT OILFIELD

Examinations and Reports.

408, TERMINAL BLDG., OKLAHOMA CITY, U.S.A.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended September 27th was 112,000 poods.

SPIES PETROLEUM COMPANY, LTD. — The production for week ended September 28th was 283,595 poods, or about 4,574 tons. The total production for the year, from January 14th to September 28th, was 9,469,945 poods, or about 152,741 tons. The total production for the corresponding period last year was 12,192,170 poods, or about 196,648 tons. Price of crude oil at Baku is now 58 copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD. — The production of crude oil for week ended September 27th was 18,076 poods (291 tons).

EUROPEAN OILFIELDS CORPORATION, LTD. — The production for the week ended September 28th was 98,700 poods, or 1,591 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended September 27th was 117,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended September 27th was 29,121 poods (470 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended September 27th was 7,700 poods, or 124 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended September 28th was 10,896 poods, or 170 tons. One well has been out of production for three days.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended September 27th, 93,495 poods or 1,508 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest production for week ended September 30th was 199,000 poods, or 3,209 tons. Corresponding period last year, 730 tons. Total production to date for this year, 71,038 tons, last year 21,471 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended September 28th was 71,500 poods, or 1,153 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended September 27th was 14,000 poods.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended September 27th was 14,575 poods (235 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended September 27th was 1,485 poods (24 tons).

GERHARD & HEY, OILFIELDS SHIPPING AGENTS,

Great St. Thomas Apostle

(Off Cannon Street),

ESTABLISHED 1856.
Telephone: City 8840 (4 lines).

LONDON, E.C.

NEW ZEALAND OILFIELD DEVELOPMENTS.

ROTARY DRILLING RECORDS AT TARANAKI.

AT no time in the history of the petroleum industry, at Taranaki, on the west coast, has there been such a keen interest taken in drilling developments. The New Plymouth refinery of the Taranaki (New Zealand) Oil Wells, Ltd., is also in full operation, and the products, according to one report, have been highly commended. The wax is reported to have a melting point of 145° , compared with 138° in the case of the imported article, and is, the report says, "a much more valuable commercial product." The motor spirit is giving splendid results.

Five wells are being drilled at Moturoa, close to the refinery. In some six weeks the new rotary of the

Wells are being drilled in other parts of the North Island, and we are able to state that a London syndicate has this week started negotiations for the acquirement of land in Taranaki, the intention being to develop it in conjunction with property still further north.

From Gisborne we learn that gas is being continually met with in the Mangaone well, in the Poverty Bay district. Our correspondent says: "The bore has passed through a hard rock formation, and the prospects of striking oil are considered to be exceedingly bright."

Writing on the prospects of the oil industry on the



The Opening Ceremony of the Taranaki Refinery, at which over one thousand Guests were present.

Taranaki (New Zealand) Oil Wells, Ltd., drilled some 1,550 ft., while another rotary, working on the property of the Bonithon Company, is also doing good work. These two rotary holes have been put down to a greater depth than a neighbouring percussion-drilled well at which work has been proceeding for six months. While drilling operations were in progress at No. 2 Bell Block bore of the Taranaki (New Zealand) Oil Wells a very strong gas vein was encountered, and the pressure was so great that drilling had to be suspended for the time being. The activity was kept up almost continuously for fifteen hours, and then ceased sufficiently to enable work to be resumed. The drilling for some considerable time has been in papa formation, and this marked activity is a very encouraging change. A sample of the debris thrown from the bore by the gas has been submitted to the company's refinery manager and analytical chemist for examination.

The cabled reports received at the London office of the company are of a most encouraging character.

East Coast, Mr. W. Akroyd, J.P., C.E., Gisborne, says that away back in the '80's he had experience as a driller with the South Pacific and Southern Cross Companies, working in two widely separated localities, and made a careful study of the petroleum industry. He had come to the conclusion that the East Coast would sooner or later become a producing field, or rather, five fields.

The following, he thinks, may be given as some of the surface indications of the presence of petroleum:—

Seepages of petroleum generally found near a fault line and on proved anticlines.

Shales showing various degrees of petroleum absorption. These are in several different locations.

Natural gas emanations, spread over a wide area and justifying the opinion that a petroleum source produced the gas.

Mud volcanoes with natural gas. One is known to have thrown out about 70,000 tons of mud in about three-quarters of an hour.

Lignites largely impregnated with petroleum.
Ozokerite or solid paraffin.
Paraffin wax.

With these indications there are found the requisite geological sequence of formation for the storage of petroleum and gas, and there is evidence of the existence of several anticlines. What is required is a genuine forward move in actual drilling, but not until there has been what is called a flying geological survey.

Mr. Akroyd adds: "Local oil history shows that there have been many failures financially, and also drilling failures, but if we gauge the money spent and the information gained by the standard of other producing fields in nearly every part of the world, the East Coast is only a normal experience. There are many difficulties to face in a new country and in practically unknown ground, and not the least of these is the inexperience of directors who are not prepared to give field managers a free hand. Then again, Dominion investors are decidedly not the best class to deal with if a company happens to be unsuccessful in the first attempts to get oil."

OUTPUT OF THE BAKU REFINERIES DURING JULY.

THE output of petroleum products from the Baku refineries during July was as under:—

	Distillate. Poods.	Refined Products. Poods.
Kerosene	7,108,761	7,126,081
Solar oil (light)	371,008	2,231
" " (heavy)	590,338	—
Lubricating oils	2,021,410	1,569,886
Residuals	12,908,574	—
Benzine	995,878	125,320
Lubricating residuals	2,607,084	—
Goudron	65,960	—
Paraffin	3,354	2,925
Total	26,672,370	8,826,443

"Colombia."—The well "Colombia" has increased its yield to 700 tons per day. So far its total production has amounted to 375,570 tons.

TRIAL TRIP OF THE "CHARLES E. HARWOOD."

THE steel screw petroleum steamer "Charles E. Harwood," built by Messrs. Sir W. G. Armstrong, Whitworth & Co., Ltd., at their Walker shipyard, to the order of the Petroleum Carriers, Ltd., was taken to sea last week for a trial trip, when she gave a good account of herself, everything working satisfactorily. The principal dimensions of the vessel are: Length, 330 ft.; breadth, 45 ft.; depth, 26 ft. 6 ins. The vessel has been built on the "Isherwood" system of framing to Lloyd's classification, and is capable of carrying a total deadweight of about 5,000 tons. She is of the two-deck type, with poop, short bridge, and forecastle. The machinery is placed at the after-end. The space between the petroleum compartments and the fore peak is arranged as a dry cargo hold. Accommodation for captain, officers, and engineers is provided in the poop, and for the seamen and firemen in the forecastle. A complete system of pumps and piping is fitted to deal expeditiously with the liquid cargo, and there is a steam windlass, two steam winches, steam steering gear, and electric light throughout. An installation of steam-heating coils is also fitted in the oil compartments, and the oil-fuel bunker. The propelling machinery is of the triple-expansion type manufactured by the Wallsend Slipway & Engineering Co., Ltd., having cylinders 19 ins. by 31½ ins., 50 ins. by 36 ins., steam being supplied by two boilers 12 ft. by 11 ft. 6 ins., fitted with Howden's system of forced draught. The boilers are arranged for oil burning on the Wallsend-Howden Patent System. Amongst those present at the trial were: Mr. James Boyd (managing director); Mr. H. Barringer, and Mr. Walter Bradney, under whose supervision the vessel has been constructed; Mr. Arthur Gulston and Mr. George Armstrong, representing the shipbuilders; and Mr. Campbell representing the engine-builders; and Captain Davidson, who will command the vessel. After the trial trip the vessel returned to the Tyne to prepare for her voyage to Mexico.

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American Petroleum Production during 1912.

An Exhaustive
and Important
Bulletin.

Dr. DAVID T. DAY'S OFFICIAL REPORT.

(Continued from page 334.)

AS forecasted in the report for 1911 there was no change in rank among the three great producing States: California, Oklahoma and Illinois. These furnished over three-fourths of the production. Among the other States, West Virginia displaced Louisiana as fourth; Texas advanced from sixth to fifth place and its former position was taken by Louisiana; Kansas advanced to ninth place and Wyoming to tenth; preceding Indiana, New York, Kentucky and Colorado. Wyoming produced more oil than New York, Kentucky and Colorado taken together.

RANK OF PETROLEUM-PRODUCING STATES, WITH QUANTITY AND PERCENTAGE PRODUCED BY EACH, IN 1911 AND 1912, IN BARRELS.

1911.					
State.	Rank.	Quantity.	Percentage.		
California	1	81,134,391	36.80		
Oklahoma	2	56,069,637	25.44		
Illinois	3	31,317,038	14.21		
Louisiana	4	10,720,420	4.86		
West Virginia	5	9,795,464	4.44		
Texas	6	9,526,474	4.38		
Ohio	7	8,817,112	4.00		
Pennsylvania	8	8,248,158	3.74		
Indiana	9	1,695,289	0.77		
Kansas	10	1,278,819	0.58		
New York	11	952,515	0.43		
Kentucky	12	472,458	0.22		
Colorado	13	226,926	0.10		
Wyoming	14	194,690	0.09		
Missouri	15				
Utah	16				
Michigan	17				
Totals		220,449,391	100.00		

1912.					
State.	Rank.	Quantity.	Percentage.		
California	1	86,450,767	38.92		
Oklahoma	2	51,427,071	23.15		
Illinois	3	28,601,308	12.88		
West Virginia	4	12,128,962	5.46		
Texas	5	11,735,057	5.28		
Louisiana	6	9,263,439	4.17		
Ohio	7	8,969,007	4.04		
Pennsylvania	8	7,837,948	3.53		
Kansas	9	1,592,796	0.72		
Wyoming	10	1,572,306	0.71		
Indiana	11	970,009	0.44		
New York	12	874,128	0.39		
Kentucky	13	484,368	0.22		
Colorado	14	206,052	0.09		
Totals		222,113,218	100.00		

The considerable gain in price of oils of Pennsylvania grade maintained the leading nine States in the relative positions as to the value of their production, which they held in 1911. Among the minor States, the changes in value were only slight. Kansas exceeded Indiana, and Wyoming went above Kentucky and Colorado.

RANK OF PETROLEUM PRODUCING STATES, WITH VALUE OF PRODUCTION OF EACH, IN 1911 AND 1912.

1911.					
State.	Rank.	Value.	Per-centage.		
California	1	\$38,719,080	28.89		
Oklahoma	2	26,451,767	19.73		
Illinois	3	19,734,339	14.72		
West Virginia	4	12,767,293	9.52		
Pennsylvania	5	10,894,074	8.13		
Ohio	6	9,479,542	7.07		
Texas	7	6,554,552	4.89		
Louisiana	8	5,668,814	4.23		
New York	9	1,248,950	0.93		
Indiana	10	1,228,835	0.92		
Kansas	11	608,756	0.45		
Kentucky	12	328,614	0.25		
Colorado	13	228,104	0.17		
Wyoming	14	132,032	0.10		
Utah	15				
Missouri	16				
Michigan	17				
Totals		\$134,044,752	100.00		

1912.					
State.	Rank.	Value.	Per-centage.		
California	1	\$39,213,588	23.94		
Oklahoma	2	34,672,604	21.17		
Illinois	3	24,332,605	14.85		
West Virginia	4	19,927,721	12.16		
Pennsylvania	5	12,886,752	7.87		
Ohio	6	12,085,998	7.38		
Texas	7	8,852,713	5.40		
Louisiana	8	7,023,827	4.29		
New York	9	1,401,880	0.86		
Kansas	10	1,095,698	0.67		
Indiana	11	885,975	0.54		
Wyoming	12	798,470	0.49		
Kentucky	13	424,842	0.26		
Colorado	14	199,661	0.12		
Totals		\$163,802,334	100.00		

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PRODUCTION OF PETROLEUM IN UNITED STATES FROM 1859 TO 1912, INCLUSIVE.

In the following table will be found a statement of the production of petroleum from each producing State of the United States from the year 1859 to and including the production of the year 1912:—

PRODUCTION OF PETROLEUM IN THE UNITED STATES, 1859-1912, BY YEARS AND BY STATES, IN BARRELS OF FORTY-TWO GALLONS.

Year.	Pennsylvania and New York.	Ohio.	West Virginia.	Calif- ornia.	Kentucky and Ten- nessee.	Colorado.	Indiana.	Illinois.	Kansas.	Texas.	Missouri.	Okl- homa.	Wyo- ming.	Louisiana.	United States. 2,000	Total Value.
1859	2,000	—	—	—	—	—	—	—	—	—	—	—	—	—	2,000	\$32,000
1860	500,000	—	—	—	—	—	—	—	—	—	—	—	—	—	500,000	4,800,000
1861	2,113,609	—	—	—	—	—	—	—	—	—	—	—	—	—	2,113,609	1,035,668
1862	3,056,690	—	—	—	—	—	—	—	—	—	—	—	—	—	3,056,690	3,209,525
1863	2,611,309	—	—	—	—	—	—	—	—	—	—	—	—	—	2,611,309	8,225,663
1864	2,116,109	—	—	—	—	—	—	—	—	—	—	—	—	—	2,116,109	20,896,576
1865	2,497,700	—	—	—	—	—	—	—	—	—	—	—	—	—	2,497,700	16,459,853
1866	3,597,700	—	—	—	—	—	—	—	—	—	—	—	—	—	3,597,700	13,455,398
1867	3,347,300	—	—	—	—	—	—	—	—	—	—	—	—	—	3,347,300	8,066,993
1868	3,646,117	—	—	—	—	—	—	—	—	—	—	—	—	—	3,646,117	13,217,174
1869	4,215,000	—	—	—	—	—	—	—	—	—	—	—	—	—	4,215,000	23,730,450
1870	5,260,745	—	—	—	—	—	—	—	—	—	—	—	—	—	5,260,745	20,503,754
1871	5,205,234	—	—	—	—	—	—	—	—	—	—	—	—	—	5,205,234	22,591,180
1872	6,293,194	—	—	—	—	—	—	—	—	—	—	—	—	—	6,293,194	21,440,503
1873	9,893,786	—	—	—	—	—	—	—	—	—	—	—	—	—	9,893,786	18,100,464
1874	10,926,945	—	—	—	—	—	—	—	—	—	—	—	—	—	10,926,945	12,647,527
1875	8,787,514	—	—	—	—	—	—	—	—	—	—	—	—	—	8,787,514	7,368,133
1876	8,968,906	31,763	120,000	12,000	—	—	—	—	—	—	—	—	—	—	9,132,669	22,982,822
1877	13,135,475	29,888	172,000	13,000	—	—	—	—	—	—	—	—	—	—	13,350,363	31,788,566
1878	15,163,462	38,179	180,000	15,227	—	—	—	—	—	—	—	—	—	—	15,396,868	18,044,520
1879	19,685,176	29,112	180,000	19,858	—	—	—	—	—	—	—	—	—	—	19,914,146	17,210,708
1880	26,027,631	47,632	179,000	40,552	—	—	—	—	—	—	—	—	—	—	26,286,123	24,600,638
1881	27,376,509	33,867	151,000	99,862	—	—	—	—	—	—	—	—	—	—	27,661,238	23,512,051
1882	30,053,500	39,761	128,000	128,636	—	—	—	—	—	—	—	—	—	—	30,349,897	23,631,165
1883	23,128,389	47,632	126,000	142,857	4,755	—	—	—	—	—	—	—	—	—	23,449,633	25,740,252
1884	23,772,209	90,081	90,000	262,000	4,148	—	—	—	—	—	—	—	—	—	24,218,438	20,476,924
1885	20,776,041	661,580	91,000	325,000	5,164	—	—	—	—	—	—	—	—	—	21,858,785	19,193,694
1886	25,798,000	1,782,970	102,000	377,145	4,726	—	—	—	—	—	—	—	—	—	28,064,841	20,028,457
1887	22,356,193	5,022,632	145,000	678,572	4,791	76,295	—	—	—	—	—	—	—	—	28,283,483	18,856,606
1888	16,488,668	10,010,868	119,448	690,333	5,096	297,612	—	—	—	—	—	—	—	—	27,612,025	17,950,353
1889	21,487,435	12,471,466	544,113	303,220	5,400	316,476	33,375	1,460	500	48	20	—	—	—	35,163,513	26,963,340
1890	28,458,208	16,124,656	492,578	307,360	6,000	368,842	63,496	900	1,200	54	278	—	—	—	45,823,572	35,365,105
1891	33,009,236	17,740,301	2,406,218	323,600	9,000	665,482	136,634	675	1,400	54	25	30	—	—	54,292,655	30,526,553
1892	38,422,377	16,362,921	3,810,086	385,049	6,500	824,000	698,068	521	5,000	45	10	80	—	—	50,514,657	25,906,463
1893	20,314,513	16,249,769	8,445,412	470,179	3,000	594,390	2,335,293	400	18,000	50	50	10	—	—	48,431,066	28,932,326
1894	19,019,990	16,792,154	8,577,624	705,969	1,500	515,746	3,688,666	300	40,000	60	8	130	2,369	—	49,344,516	35,522,095
1895	19,144,390	19,545,233	8,120,125	1,208,482	1,500	438,232	4,386,132	200	44,430	50	10	37	3,465	—	52,892,276	57,691,279
1896	20,584,421	23,941,169	10,019,770	1,252,777	1,680	361,450	4,680,732	250	113,571	1,450	43	170	2,878	—	60,960,361	58,518,709
1897	19,262,066	21,560,515	13,090,045	1,903,411	322	384,934	4,122,356	500	81,098	65,975	19	625	3,650	—	60,475,516	40,929,611
1898	15,948,464	18,738,708	13,615,101	2,257,207	5,568	444,383	3,730,907	360	71,980	546,070	10	—	5,475	—	55,364,233	44,193,359
1899	14,374,512	21,142,108	13,910,630	2,642,095	18,280	390,278	3,848,182	360	69,700	669,013	132	—	5,560	—	57,070,850	64,603,904
1900	14,559,127	22,362,730	16,195,675	4,324,484	62,259	317,385	4,874,392	200	74,714	836,039	1,602	6,472	5,450	—	63,620,529	75,752,691
1901	13,831,996	21,648,083	14,177,126	8,786,330	137,259	460,520	5,757,086	250	179,151	4,393,658	2,335	10,000	5,400	—	69,389,194	66,417,335
1902	13,183,610	21,014,231	13,513,345	13,984,268	185,331	396,901	7,480,896	200	331,749	18,083,658	757	37,100	6,253	548,617	88,766,916	71,178,910
1903	12,518,134	20,480,286	12,899,395	24,382,472	554,286	483,925	9,186,411	—	932,214	17,955,572	3,000	138,911	8,960	917,771	100,461,337	94,694,050
1904	12,239,026	18,876,631	12,644,686	29,649,434	998,284	501,763	11,339,124	—	4,250,779	22,241,413	2,572	1,366,748	11,542	2,958,958	117,080,960	101,175,455
1905	11,554,777	16,346,660	11,578,110	33,427,473	1,217,377	376,238	10,964,247	181,084	12,013,495	28,136,189	3,100	—	8,454	8,910,416	134,717,580	84,157,399
1906	11,500,410	14,787,763	10,120,935	33,098,598	1,213,548	327,582	7,673,477	4,397,050	21,718,648	12,567,897	3,500	—	7,000	9,077,528	126,493,936	92,444,735
1907	11,211,606	12,207,448	9,095,296	39,748,375	820,844	331,851	5,128,037	24,281,973	2,409,521	12,322,696	4,000	43,524,128	9,339	5,000,221	166,095,335	120,106,749
1908	10,584,453	19,858,797	9,523,176	44,854,737	727,767	379,653	3,283,629	33,686,238	1,801,781	11,206,464	15,246	45,798,765	17,775	5,788,874	178,527,355	126,079,184
1909	10,434,300	10,632,793	10,745,092	55,471,601	639,016	310,861	2,296,086	30,898,339	1,263,764	9,534,467	5,750	47,859,218	20,056	3,059,531	183,170,874	128,328,487
1910	9,848,500	9,916,370	11,753,071	73,010,500	468,774	239,794	2,159,725	33,143,262	1,128,668	8,899,266	3,615	52,028,718	115,430	6,841,395	209,557,248	127,899,688
1911	9,200,673	8,817,112	9,795,464	81,134,391	472,458	226,926	1,695,289	31,317,038	1,278,819	9,526,474	7,995	56,069,637	186,695	10,720,420	220,449,391	134,044,752
1912	8,712,076	8,969,007	12,128,962	86,450,767	484,368	206,052	970,009	28,601,308	1,592,796	11,735,057	—	51,427,071	1,572,306	9,263,439	222,113,218	163,802,334

736,205,411 415,444,184 238,985,483 542,887,881 8,068,961 10,237,571 100,532,249 186,512,968 49,422,978 168,721,719 54,077 298,267,850 1,998,047 63,087,170 2,820,426,549 \$2,338,032,130

(To be continued.)

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Company.	Share Capital.	Value of Shares.	Latest Prices.
	£		
Anglo-Maikop Corporation...	650,000	£1	$\frac{7}{16}-\frac{9}{16}$
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{29}{32}-\frac{31}{32}$
„ 5% Deb. Stock ...	600,000	£100	86-90
Assam Oil ...	310,000	£1	$\frac{3}{8}-\frac{3}{4}$
Baku Russian Petroleum Co.	750,000	10/-	5/3-5/9
Bibi-Eibat Oil Co. ...	312,500	10/-	6/0-7/0
Californian Oilfields...	500,000	£1	6-6½
European Oilfields ...	385,000	10/-	7/0-8/0
Lobitos Oilfields, Ltd. ...	400,000	£1	27/9-28/9
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{5}{8}-\frac{3}{4}$
Pacific Oilfields, Ltd. ...	250,000	£1	3/0-4/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	20/0-21/0
Russian Petroleum Co. ...		10/-	3/9-4/3
Schibai ff Petroleum, new Pref. (fully paid) s/s		—	$1\frac{3}{8}-1\frac{1}{2}$
„ „ new Ord.	575,000 s/s	(fully paid)	14/9-15/9
Shell Transport and Trading	2,500,000	£1	$5\frac{3}{16}-5\frac{1}{4}$
„ „ „	1,200,000 Pref.	£10	10¾-11xd
Spies Petroleum Co. ...	600,000	10/-	22/0-23/0

RUSSIAN COMPANIES.			
Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	765	768
Caspian Society (Issue 1910) ...	1,000	3,450	3,460
A. I. Mantasheff & Co. ...	250	775	778
Nobel Bros....	5,000	21,600	21,700
Nobel Bros. (Issue 1912) ...	250	1,117	1,122
Russian Naphtha Society ...	100	292	294
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	278	280
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	380	385

SCOTCH PRICES.			
Supplied by Messrs. MACLEAN & HENDERSON, Stirling.			
Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
British Australia Oil Co., Ltd. ...	300,000	£1	2/6
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	37/6
6% Cum. Pref.	100,000	£10	£11½
Burmah Oil, Ord. ...	1,100,000	£1	74/0
„ Pref. ...	250,000	£1	26/0
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	8/3
Mexican Eagle Oil, Ltd.,			
Non. Cum. Pref. ...	\$8,500,000	\$10	44/9
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	35/9
Pref. (£1 paid) ...	100,000	£1	22/6
Premier Oil Ord. ...	2,300,000	£1	9/10½
Pumpherson Min. Oil Co., Ltd.			
Ord. (17/- paid) ..	110,500	17/-	$5\frac{13}{16}$
6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	8/6
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	72/9
„ „ „ B „ Deb. ...	160,000	£100	£153

DUTCH COMPANIES.		
Company.		Quotations (per cent.).
Dordtsche Petroleum Industrie My., Ord. ...	Aand	183
„ „ „ Pref. ...	„	182
Royal Dutch Petroleum Co. ...	„	624
Moeara Enim Petroleum Maatschappij ...	„	238
Perlak Petroleum Maatschappij ...	„	51
Sumatra Palembang Petroleum Maatschappij	„	230
Zuid Perlak Petroleum Maatschappij, Pref.	„	50
Tarakan Petroleum Maatschappij ...	„	106

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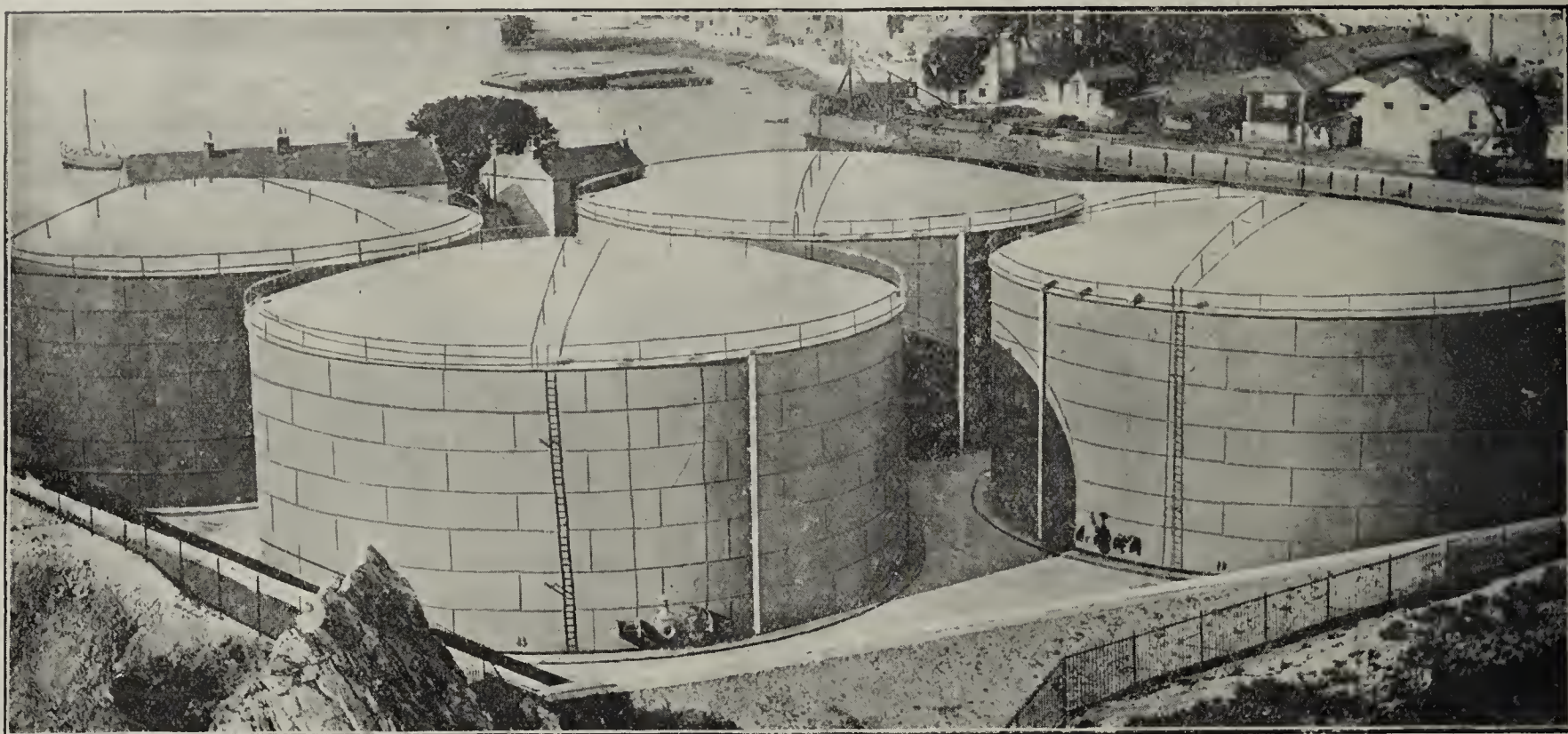
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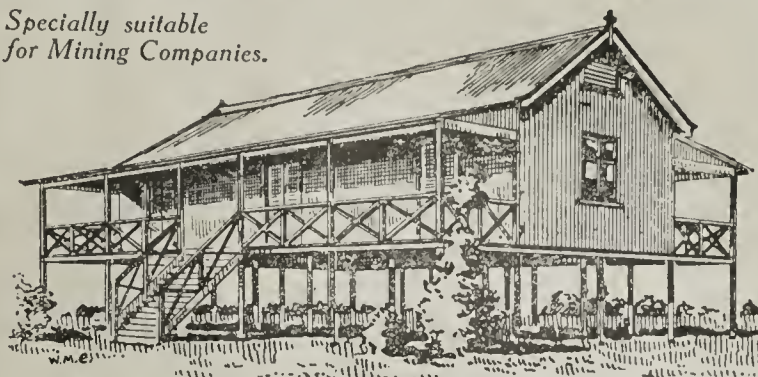
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CHIEF CONTENTS.

	PAGE
Editorial Notes	355
Production of English Companies in Russia	356
New Zealand Oilfield Developments	357
American Petroleum Production during 1912	359
Latest Quotations of Petroleum Shares	362
The Late Dr. Rudolf Diesel	365
Classified Imports into the United Kingdom	366
Notes from the Oilfields	367
The Waters in Petroleum Wells	368
The Prevention of Waste of Oil and Gas from Flowing Wells in California	369
Imports of Petroleum Products	371
Home and Foreign Market Intelligence	373
The American Oil Market	374
The REVIEW Shipping List	375

— THE —

PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, OCTOBER 4TH, 1913.

THE LATE DR. RUDOLF DIESEL.

IT is with feelings of sincere regret that we have to record the decease of Dr. Rudolf Diesel, the inventor of the engine that bears his name. Dr. Diesel was travelling from the Continent to Harwich early this week to attend a meeting in London of the Consolidated Diesel Engine Manufacturers, Ltd., and it was while on board that he disappeared, the assumption being that he was seized with giddiness and fell overboard unnoticed.

There is no doubt that Dr. Diesel rendered a far greater service to the oil industry, as well as to the industrial community at large, than falls to the lot of even the majority of successful inventors; he found a means of employing a grade of crude oil, which on the market at that time found no profitable demand, but by far his greater service was that of cutting down the

cost of power for industrial purposes by over one half. At first, the Diesel engine had many short-comings, but the principle was right, and the inventor himself saw many ways in which his invention could be improved. After the first principle was laid down, the road to perfection was tolerably simple, and this is borne out to-day by the fact that all the world over the Diesel engine has not only made a name for itself, but gives every promise of revolutionising power both on land and sea.

Born in Paris in 1858, Mr. Diesel, at the outbreak of the Franco-German war, was sent to school at Augsburg, and it was whilst there that he came under the influence of Professor von Linde, by whom he was induced to specialise in thermo-dynamics. Having graduated from college he became assistant to Professor von Linde and then proceeded to the machine shops of Messrs. Sulzer Brothers, of Winterthur. We next see him as manager to a French company in Paris for building Linde's refrigerating machinery, and after some years here he commenced to devote himself entirely to research work with the definite idea of finding a prime mover of high thermal efficiency. Lack of capital somewhat prevented the practical progress of his ideas, but in 1893 his paper on "The Theory and Construction of a Rational Heat Motor" drew to him the attention of Frederick Krupp, who placed means at his disposal for a practical development of the engine he had in mind.

After several exhaustive experiments and not a few failures, he eventually produced a reliable and complete Diesel engine at Augsburg, this being in 1897. As a matter of fact, Dr. Diesel had perfected the practical design of his engine four years previously, but during the experimental stages the engine burst its cylinders and its inventor was almost killed.

It was at the International Exposition in Paris, in 1900, that the first Diesel engine was brought to the notice of the public. We recollect being struck with this particular invention, which was only exhibited in a modest way, with nothing to suggest to the visitor that the principle contained in it was destined to revolutionise the production of power both on land and sea. The engine was of very low output and far from faultless, but it was evident to the careful observer that a wonderful amount of thought had been expended in order to bring forth an engine of such high practical efficiency. Three years later may be considered as marking the definite acceptance by the public of the Diesel engine as applied to industrial purposes, for it was then,

at the Dusseldorf Exhibition, that a German firm produced an engine in perfect running condition. Two years later, at the Liege Exhibition, big improvements were shown, for instead of limiting the manufacture to small sizes, Messrs. Carels Frères, of Ghent, had a 500 h.p. Diesel engine on exhibition, this being the largest engine built up to that time.

By this time the eyes of the inventive mind in engineering were directed to the Diesel engine, and in 1908 the two-cycle engine was particularly noted by the technical world. Ever since that time events have marched quickly, until it is now possible to manufacture a Diesel engine developing 6,000 h.p. To appreciate the exact idea of the enormous power of such an engine one should consider that two such engines would develop considerably more power than the turbines and boilers, say, of the s.s. "Mauretania," yet requiring one quarter of the space, and at the same time doing away with a complement of over 300 stokers and trimmers.

Although the development of Dr. Diesel's invention during the past decade has been prodigious, it is certain that it has by no means reached the climax of its success, and one may yet hope to see the greyhounds of the Atlantic pursuing a smokeless track, annihilating space in a manner yet undreamt of by practising the practical economy synonymous with the word "Diesel."

In a word, the world is the great loser by the untimely death of Dr. Diesel, whose name will pass down to posterity linked with those of the greatest of our inventors.

THE PETROLEUM TRADE OF BATOUM.

Statistics for July.

THE following table shows the imports of petroleum products to Batoum, the exports of the same from Batoum abroad and inland, during July, as well as the quantities in store on the 1st of August :—

	Imports. Poods.	Exports.		In store on August 1st. Poods.
		Abroad. Poods.	Inland. Poods.	
Kerosene	2,197,657	2,307,029	240,397	2,812,312
Lubricating oil	467,646	642,913	29,216	2,010,107
Residuals	375,437	249,144	—	648,075
Crude oil	49,951	—	845	—
Other products	—	6,914	—	—
Totals	3,090,691	3,206,000	270,458	5,470,494

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO SEPTEMBER 29th, 1913.

[ALL RIGHTS RESERVED.] IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Sept. 22.	From Jan. 1.	Since Sept. 22.	From Jan. 1.	Since Sept. 22.	From Jan. 1.	Since Sept. 22.	From Jan. 1.	Since Sept. 22.	From Jan. 1.	Since Sept. 22.	From Jan. 1.	Since Sept. 22.	From Jan. 1.	Since Sept. 22.	From Jan. 1.
Belgium ..	—	—	9,310	562,973	—	—	—	—	—	20,820	—	120	—	4,910	9,310	599,823
Canada ..	—	—	—	7,040	7,800	46,250	—	—	—	—	—	—	—	—	7,800	53,290
Dutch Indies ..	—	—	—	—	—	—	—	—	1,920,000	32,701,450	—	299,497	—	—	1,920,000	33,000,947
Germany ..	21,080	180,800	35,790	2,720,670	—	600	—	107,120	—	—	—	490	—	4,610	56,870	3,014,200
Holland ..	—	—	140	8,720	—	—	—	—	5,000	5,854,340	—	—	—	590	5,140	5,863,650
Mexico ..	—	4,002,250	—	—	—	—	—	1,062,590	—	1,123,800	—	11,960,540	—	—	—	18,149,180
Roumania ..	—	12,856,037	—	—	—	—	—	1,150,000	—	2,981,830	—	9,027,540	—	—	—	26,015,407
Russia ..	—	9,851,130	2,610	11,392,610	—	389,370	—	—	—	11,889,350	—	—	—	—	2,610	33,522,460
U.S.A. ..	2,641,740	82,430,496	2,068,480	36,787,164	15,150	180,470	—	46,670,580	—	18,062,720	—	2,512,630	16,710	769,715	4,742,080	187,413,775
Other Countries	—	80	700	115,170	—	480	—	—	—	4,859,240	—	3,620	—	1,460	700	4,980,950
	2,662,820	109,320,793	2,117,030	51,594,347	22,950	617,170	—	48,990,290	1,925,000	77,493,550	—	23,804,347	16,710	781,285	6,744,510	312,612,782

NOTES FROM THE OILFIELDS.

AMERICAN.

A New Tanker for the Standard.—The Standard Oil Company has just received delivery of its new tanker "The Richmond," which is to take service in the company's Pacific fleet. The vessel was built at Quincy, Mass.

In Restraint of Trade.—It is reported that an attempt is being made to dissolve the California Independent Producers Agency, the contention being that the agency is in every general and technical sense an illegal combination, in restraint of trade.

The Texas Panhandle Fields.—In these fields the production of crude oil is daily increasing, and now stands at the highest point reached since the fields were developed. It is estimated that the production will shortly reach 40,000 barrels daily. The Electra field alone shows a daily output of over 27,000 barrels.

Light Oil in the Sunset Field.—The lightest oil yet found in the Sunset-Midway field has been struck by the St. Helens Petroleum Company in its No. 2 Well, the crude showing a specific gravity of .857. The well is now producing 250 barrels a day.

The Humble Field.—Considerable activity is now the rule in the Humble Field, the majority of the operators sinking new wells as rapidly as possible. The Producers' Oil Company's well, which was brought in a month ago, is still yielding over 1,000 barrels daily.

A Good Well in the Santa Maria Field.—The Union Oil Company's No. 21 Well is the best producer in the Santa Maria field. Brought in over three months ago, with an initial production of 2,500 barrels daily, the well is still producing 1,700 barrels daily.

Activity in La Habra Valley.—Consequent upon the successful wells brought in by the Amalgamated Oil Company in this Californian field, the district is now the centre of great activity. The first producing well was drilled in a barley field not far north of numerous orange and walnut groves, and to-day in a territory not more than a mile in extent in each direction no fewer than twenty-five strings of tools are in operation. Most of the wells are being drilled with the "Rotary" method until the sand is reached, when they are finished with cable tools.

RUSSIAN.

Spouter at Roumani.—The spouter which has been acting for several days on the fields of Mantascheff at Roumani ceased on 12th September, owing to the formation of a natural cork. The quantity of oil spouted amounted to over 1,000,000 poods.

Moscow Petroleum Company.—Capital 3,000,000 roubles. The 16th (1912) operating year shows a deficit of 81,437 roubles, besides which there was a deficit made during former years, totalling 1,120,066 roubles.

New Boring Company.—A new company with a capital of 4,000,000 roubles, and 40,000 shares of 100 roubles each has been formed for the exploration of the works of E. F. Biereng, at Saboontchi. The new company will bore for petroleum in the district.

Melikoff and Makhmuroff Petroleum, Ltd.—Under this name a new company has been formed on the 16th of August, for the purpose of petroleum exploitation in the Baku district. The administration is composed of the former owners of the property, Mr. Melikoff and Mr. Makhmuroff.

Petroleum Exploitation in the Astrakhan Province.—Up to the present the administration of the state properties in Astrakhan has granted over 500 certificates for petroleum exploration in the First-Primorsk and Kamish-Samarsk districts in the Kirgiz steppes.

The Strike on the Fields.—The strike on the fields is now almost over, and the workmen having obtained full satisfaction to their demands have resumed work. Negotiations are still being carried on between the workmen of the firms of Nobel Bros., and Benkendorf & Co.

Mazout Petroleum Company. The profits of this company for the 15th (1912) operating year amounted to 2,428,449 roubles, of which 1,600,000 roubles were distributed to the shareholders as

13½ per cent. dividend. 778,997 roubles were transferred to the amortisation fund. The capital of the company is now 12,000,000 roubles.

Petroleum Free of Duty.—The Astrakhan Exchange has addressed the government with a demand to prolong the term during which petroleum may be imported free of duty, as in its opinion the firms cannot arrange during such a short interval for transport, storage etc. This demand has also been supported by the Nijni Novgorod Exchange.

Petroleum Exploitation by the State.—The committee which has been appointed to consider the advisability of exploitation of petroleum on the State properties by the State itself has recognised the usefulness of this measure, and intends to start the exploitation on a limited area of 45 dessiatines *pro tem*. The committee has come to this conclusion on the basis of the fact that at present the State railways alone are consuming 40,000,000 poods of petroleum a year, and that in the future this quantity will be considerably increased owing to the demands of the Navy. The committee is of the opinion that the Baku district should be preferred to any other for the start. The average production expected on the chosen area is calculated to amount to 20,000,000 poods. A special law is being elaborated, and will be presented to the Duma at the end of the year.

ROUMANIAN.

The Colombia Well.—The well Colombia at Moreni continues yielding 650 tons a day. At Gropi well No. 79 is expected to shortly enter into production.

Concordia.—The old well of this company at Bordeni, which used to produce 250 tons of oil a day, is still yielding good oil—at present an average of 60 tons a day. The company has three other wells in exploitation at Bordeni.

Exportation.—The exportation is at present on the decrease owing to difficulties in the transport and the absence of steamers, which have been attracted to other producing countries owing to the trouble in the Balkans.

Petroleum Deals.—Mr. Haimson has sold to the Concordia a petroliferous property situated at Scortzeni, in the Prahova district, at a price of 43,900 francs in cash. Mr. Manolesco has ceded to Mr. Mireea two petroliferous plots in the Prahova district.

The Steaua-Romana at Policiori.—The Steaua-Romana intends great development of its properties in Policiori. The crude oil from this locality yields 60 per cent. of kerosene, as against the 25 per cent. which is the ordinary average of Roumanian crude oil.

The Baicoi-Constanza Pipeline.—The work of constructing the pipe, which was stopped owing to the mobilisation, is now actively proceeding. Installation buildings are now being erected at Baicoi, Ploeshti, Buzeu, Hagieni, and Polas. The total cost of the buildings amounts to 1,300,000 francs.

Antwerp Exchange and Roumanian Petroleum.—The Roumanian petroleum shares are very firm on this exchange. The Colombia shares keep at 1,960 and the Omnium at 750. The Omnium has a capital of 10,925,000 francs, in 250-franc shares, and is controlled by the same group as Colombia.

Petroles de Roumania.—A general meeting of this company took place recently at Bucarest. A net profit of 634,809 francs has been declared, out of which a dividend of 9.83 per cent. will be distributed to the shareholders; 266,700 francs are transferred to the amortization, 31,740 francs to reserve, and 73,971 francs to the next year's accounts.

The Baicoi and Constanza Pipeline.—The Administration of the pipeline has engaged six American specialists in order to teach the Roumanian foremen and workmen the construction work, for which the Administration will have to employ about 100 foremen and over 1,000 work-people. At present the branch of the pipeline between Baicoi and Ploeshti, which has a length of about 25 kilometres and a 5-in. bore, is already completed and tested at a pressure of 80 atmospheres. As soon as the Roumanian workmen are used to the American system of work and tools, the operations will naturally proceed considerably quicker and the whole work will be completed with greater economy than would otherwise be the case.

THE WATERS IN PETROLEUM WELLS.

By Prof. K. KHARITCHKOFF.

THE problem of finding out the real origination of one or another mineral is often very difficult of solution. Notwithstanding the abundance and variety of physical and chemical agents which are at present at our disposal in our scientific laboratories, such as high and low temperatures, high pressure and vacuum, electrical force, etc., we have not yet reached a sufficient degree of scientific knowledge to enable us to ascertain all those conditions which have really existed in nature, and to imitate the creative power of the latter in order to obtain in an artificial way such minerals as coal, gas, petroleum, asphalt, etc. Our theory of diamond formation, for instance, is a very ingenious one, and yet we have succeeded in obtaining but microscopically-small artificial diamonds, being quite unable to produce diamonds somewhat similar to natural ones in shape and size. Similarly, with all our clever and deeply-thought-out theories on the formation of coal, petroleum and asphalt, we have been quite unable to produce real coal, petroleum and asphalt in a synthetic way.

The difficulty our science meets with is also to be seen in the question of boring water. We are neither able to artificially produce a watery solution similar in composition with natural boring water nor to elucidate those physico-geological conditions which result in the production of typical boring water, with its almost total absence of sulphates and presence of sulphides. We know that sulphates, being heated with coal, are reduced to sulphides, but we do not know how this reduction goes on in water solutions. We have already carried out some experiments toward such solution, and recently we have carried out others with solutions which we kept under observation for six months. Altogether we have prepared eight samples of a 10 per cent. solution of sodium sulphate and one of magnesium sulphate, mixed each with an equal volume of kerosene. The samples were then treated in the following way: Three of them were left at the ordinary temperature of the room on the window-sill, exposed to direct solar

light; three others, including that of magnesium, were kept for 420 hours at a temperature of 96° C.; and the last three samples were sealed up and heated, also 420 hours in a water-bath. In order to obtain high pressure, kerosene in other similar samples was replaced by benzine. So as to judge of the degree of reduction taking place in the glasses, an indicator, namely, cadmium chloride, was added. The results obtained were as follows: In the open glasses the hydrocarbon layer has become yellow and considerably evaporated, with the exception of the glass with magnesium sulphate. In the sealed tubes, where the pressure was at least not less than three atmospheres, both liquids remained transparent, and when poured out into water there was a white deposit of anhydrous sulphate, which, being filtered and washed, proved to contain some tarry substance difficult to carbonise. There was also perceptible a very slight colouration, owing to the formation of traces of cadmium sulphide. A more distinct colouration and yellow milky appearance was noticeable in the tube with magnesium sulphate, showing that the reduction here has proceeded at a quicker rate. In the tubes exposed for six months to the influence of ordinary temperature and solar light, there were no traces of reduction whatever.

We do not, of course, pretend to say that the above experiments have reproduced all the natural conditions; especially they could not reproduce the principal one, namely, the infinite length of time. It is very easy to understand that complete results could have been obtained under natural conditions; in the presence of tremendous internal pressures acting during infinitely long periods of time, hydrocarbons, of course, easily dissolved in water solutions and the chemical interaction was easy. Also when solutions are heated up above the critical temperature of water, the petroleum gases and asphalt could have come in contact with solid sulphates and result in the formation of sulphides on one side and complicated products of condensation and oxidation on the other side.

LAUNCH OF THE "SAN URBANO."

THERE was launched from the Walker shipyard of Sir W. G. Armstrong, Whitworth & Co., Ltd., on Tuesday afternoon, the large screw petroleum steamer "San Urbano," built to the order of the Eagle Oil Transport Company, Ltd., of London. The chief dimensions of the vessel are: Length over all, 432 ft.; extreme breadth, 54 ft. 6 in.; depth moulded, 32 ft. 8½ in. She is capable of carrying a total deadweight of 9,400 tons on a moderate draft of water. The vessel has been built on the "Isherwood" system to Lloyd's highest class under special survey. She is fitted with a poop, bridge and fore-castle, and is rigged as a two-masted schooner, the masts being telescopic for the Manchester Canal. The accommodation for the captain and officers is in the bridge, the engineers in the poop, and the seamen and firemen in the fore-castle. For dealing with the cargo there is a large installation of pumps and oil piping throughout the vessel, and a system of heating

coils in the oil compartments. The deck machinery consists of a steam windlass, three steam winches, and steam steering gear. The vessel will be fitted with a complete installation of electric light. The propelling machinery is of the quadruple-expansion type, manufactured by the Wallsend Slipway and Engineering Company, Ltd., Wallsend-on-Tyne, and will be placed in the after-end of the vessel. The cylinders are 24 in. by 35 in., 50½ by 73 in., by 51 in. stroke, steam being supplied from three cylindrical multitubular boilers 15 ft. 6 in. by 11 ft. 9 in. long, with a working pressure of 220 lbs. On leaving the ways, the vessel was named "San Urbano" by Mrs. Body. Amongst those present at the launch were: Mr. and Mrs. Body, Mr. Rendall, Captain Godfrey-Faussett, Mr., Mrs. and Miss Smart, Mr. H. Barringer, and Mr. Walter Bradney, under whose supervision the vessel has been constructed; Col. R. Saxton White, Mr. D. R. MacDonald, Mr. A. Gulston, Mr. E. Saxton White, and Captain Cain, who will command the vessel.

The Prevention of Waste of Oil and Gas from Flowing Wells in California.

By Messrs. RALPH ARNOLD and V. R. GARFIAS.

(Continued from page 344.)

PERHAPS the greatest individual losses in connection with flowing oil and gas wells have been caused by conflagrations which in most instances could have been avoided by proper precautions. In such conflagrations the gas, owing to its lower flash point, is generally set on fire before the oil. Ignition may be caused by fires under boilers or in forges, by unprotected lamps, burning matches, or spontaneous combustion at the bearings of the calf wheel, bull wheel, headache post, or band wheel in the engine house. It is also claimed that the friction of pebbles striking each other or rubbing against the casing as they are expelled with great force with the gas or oil, may cause sparks that will set on fire the more inflammable hydrocarbons. In certain oilfields fires caused by lightning are comparatively numerous.

The prevention of these fires depends on the proper control of the flow of gas and oil, the ventilation of the space immediately above and near the well so that no gas will accumulate, and the keeping of boiler fires, forges, lamps, burning matches, poorly insulated electric wires, etc., at such a distance or in such a position as to eliminate danger.

The most effective means employed for subduing gas or oil fires has been the use of steam discharged in great quantities and under high pressure against the lowest part of the flame, in a manner to be described in a later publication by the bureau. Well cappers, such as the Mortenson, have also been used successfully. Nature at times comes to the rescue by temporarily stopping the flow when the well "sands up." On the other hand, the flow may render human ingenuity powerless by destroying the casing and forming a veritable oil volcano, as was the case in Mexico with the famous Dos Bocas well.

Description of apparatus.—The Mortenson well capper (fig. 2), devised by A. C. Mortenson, has been used successfully in the Midway and Coalinga fields for controlling oil wells of large flow after they have "gone wild." It is a modification of the straightway gate valve, differing from the latter principally in the design of the hub or barrel, which is made in two separate segments fastened together with bolts (*a*, fig 2). The gate, *b*, is nearer the upper flange, thus dividing the orifice into two chambers of unequal lengths, the larger one, *c*, having two circular openings, *d*, $4\frac{1}{2}$ to $6\frac{1}{4}$ in. in diameter. The recess, *e*, is designed to allow the gate to be drawn back of the clear about $\frac{3}{4}$ in., thus making possible the clamping of the capper around the well casing without danger of damaging the gate. The lower part of the apparatus has a grooved shoulder, *f*, provided with hydraulic packing in order to prevent the back flow of oil or gas between the casing and the capper, there being enough space between the shoulder and the side openings to

allow for the standard casing collar. The capper and casing are further secured by four anchor bolts, which pass through the lower flange at *g* into a bed of concrete around the casing, and to the upper flange are bolted screw flanges to fit different-sized casings.

A detail in the design of the capper that at times plays a very important rôle in its successful operation is the rounding of the lower edge *h* of the groove into which the gate fits; because of this provision, whatever sand may be forced into the groove when the gate is being closed is easily washed down, thus permitting the gate to be closed tight. The apparatus is manufactured in different sizes; that adaptable to $6\frac{1}{4}$ -inch casing weighs about 1,600 pounds, the $8\frac{1}{4}$ -inch about 1,600 pounds, and the one for a $15\frac{1}{2}$ -inch casing is estimated to weigh 3,600 pounds.

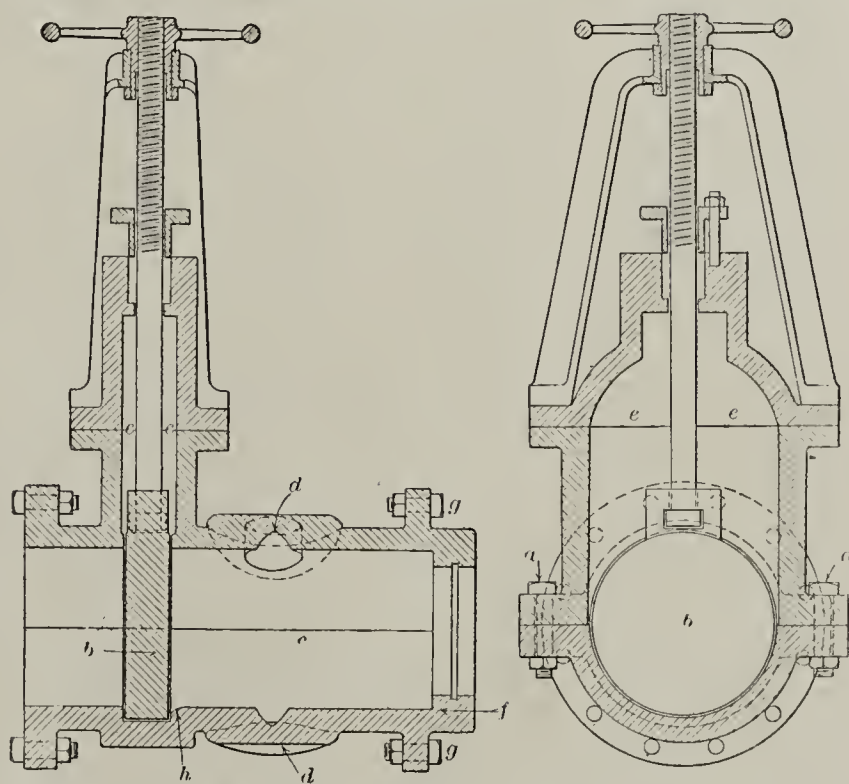


Fig. 2.—Mortenson Well Capper.

Oil-cushion attachment.—In order that the sand usually accompanying the oil in the California fields may not wear out any metal cap placed on the T, an oil cushion is provided. This consists of a pipe about 8 ft. long, having a tight hardwood plug and a cast-iron screw cap on the opposite end. This chamber is constantly full of eddying oil and sand, and thus affords a yielding cushion that effectively retards the velocity of the sand grains and minimises their wearing action. The wooden plug affords added safety, as it is not as quickly attacked by the sand as an unprotected metal cap. To the other opening of the T are connected the necessary fittings to divert the flow into as many channels as needed, and additional oil cushions may be provided if added safety is required.

Mode of operation.—The peculiar design of the apparatus suggests at once its mode of operation. If the uppermost joint is sound and the top of the casing is accessible, the two segments of the capper are readily

bolted together around the casing collar. This operation presents no difficulties, as at no time is the flow of oil disturbed in any way, which is the essential difference and advantage of this method compared with those which necessitate partly obstructing the flow of gas or oil before the apparatus is placed in position. The necessary nipples, gates, etc., are connected to the side openings to take proper care of the oil when the flow is diverted laterally by closing the gate on the capper. Once this is accomplished, the connections on top of the capper are made without delay, as the side outlets are intended to take care of the flow only temporarily. The fittings generally used are an 18-inch nipple, directly over the capper, a two-way T, and whatever additional nipples, valves, etc., are needed to divert the flow as desired.

If the uppermost joint is damaged, a hole is dug around the casing and the apparatus is clamped to the first sound joint. As an added precaution, the excavation may be filled with concrete and the capper secured by means of the anchor bolts. After the side connections have been made, the upper joint of casing is unscrewed and raised above the gate within the body of the capper to allow the closing of the gate, and thus divert the flow to the lateral openings.

When the top connections have been made, the gate of the capper is opened slowly to allow some of the oil to flow through the capper and test the upper connections, and if these are found safe the gate is entirely opened. The gate valves attached to the side connections can then be closed without trouble, thus placing the well under perfect control.

This method has been found effective in controlling oil wells on fire, since if it is possible to reach the casing one or two joints below the mouth of the well, the flow of oil can be diverted through the side openings and allowed to discharge at any safe distance away from the well. In this operation, after the upper joints have been unscrewed, it is best not to remove them from the capper, but to lift them just enough to allow the closing of the gate, the design of the apparatus permitting such operation. After the Pacific Crude gusher in the Midway field had caught fire, it was subdued by the method outlined.

Another method that proved successful in controlling one of the largest oil wells ever drilled is described by Dr. David T. Day as follows: "The device for getting the great well under control was planned by F. Laurie and applied under the supervision of S. Weaver and F. Laurie. In this device a heavy clamp is placed immediately under the collar of the 8-inch casing, of which there are about 1,700 ft. in this well. To this clamp, on opposite sides of the casing, are fastened 2-in. rods, hinged near the lower ends. The upper ends of these rods pass through a clamp above an 8-in. T joint having two gate valves. At the lower end of the T joint is a swage bell nipple, 8-in. to 10-in. By means of guys the T joint on its hinged supporting rods was swung from a horizontal to a vertical position, bringing the bell nipple directly over the end of the 8-in. casing. The supporting rods are provided with threads and nuts at their upper ends, and by means of these nuts the bell nipple was forced down over the end of the casing. An 8-in. pipe was connected to the T and the upper valve was gradually closed, the oil being thus forced through the pipe into the reservoir. The first controlling device had been tested to only 800 pounds, for it was not considered safe to close the well completely. A new T joint, bell nipple, and valves, tested to 2,000 pounds, were later substituted and the well was completely closed. That is its present condition, except for a small leakage about the valve gaskets. An earthen reservoir somewhat over sixty acres in extent was quickly and efficiently provided, but in sixty days this was filled with 3,000,000 barrels of oil, although the flow was checked as much as was deemed safe." (To be continued.)

MAIKOP PETROLEUM PRODUCTION DURING AUGUST.

THERE was obtained on the Maikop Oilfields during the second half of August 194,090 poods of oil, including 100 poods of spouted oil on plot No. 45. The production was obtained on 14 plots from 142 wells of an average of 755.3 ft. The total production during August amounted to 384,092 poods and from beginning of the year to 3,332,058 poods. There were in store on the 1st of September, 75,904 poods of oil.

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Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

FOR THE WEEK ENDED SEPTEMBER 29TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
LONDON—				
Sept. 23	Mercantile Lighterage Co....	Lub.	15,880	Philadel.
23	"	"	24,280	New York
24	Gerhard & Hey	"	480	Philadel.
24	E. G. Boize	"	150	Hamburg
24	Port Authority	"	2,800	"
24	Vacuum Oil Co.	"	1,400	Philadel.
24	"	"	76,550	New York
24	Beck & Pollitzer	Lub. Gr.	40	"
25	Port Authority	Lub.	210	S. Petersburg
25	J. Thompson...	"	490	Riga
25	Hanseatic Maritime Agency	"	40	Bremen
25	Port Authority	"	620	Hamburg
25	Snowdon, Sons & Co.	Lub. Gr.	2,170	Antwerp
25	P. Brancher	Lub.	340	"
25	Mercantile Lighterage Co....	"	600	New York
25	Port Authority	"	5,400	"
25	Worthington & Boler	"	5,400	"
25	Asiatic Petroleum Co.	Benzine	1,920,000	Balek Pappan
26	"	"	5,000	Rotterdam
26	Lubricating & Fuel Oils Co.	Lub.	10,660	Baltimore
26	Schliemann Oil, etc., Co.	Lub. Oil and Gr.	4,960	Hamburg
26	Trinidad Lake Asphalt Co.	Lub. Resid	3,680	N. News
26	Port Authority	Lub. Gr.	200	New York
27	Produce Brokers Co.	Lub.	10,400	Baltimore
27	Mercantile Lighterage Co....	"	1,000	"
27	Union Lighterage Co.	"	24,000	"
29	Snowdon, Sons & Co.	"	2,590	"
29	Langley, Smith & Co.	"	4,440	New York
29	Produce Brokers Co.	"	4,800	"
29	Scott's Wharf	"	3,000	"
29	E. G. Boize	Lub. Gr.	400	Hamburg
29	Port Authority	Lub.	1,890	"
29	Craven & Co....	Lub. Gr.	400	"
29	Leach & Co.	Lub.	120	Ghent
29	Page, Son & East	"	400	Antwerp
LIVERPOOL—				
23	J. T. Fletcher & Co.	"	360	"
23	Liverpool Warehousing Co.	"	550	Hamburg
23	W. Gibson & Sons	Lamp	2,050	Boston
23	Meade-King, Robinson & Co.	Lub. Oil and Gr.	27,200	Baltimore
23	A. Hopps & Sons	Lub. Resid	2,600	Montreal
23	L. & N.W. Railway	Lub.	1,000	New York
23	Liverpool Warehousing Co.	"	800	"
24	Vacuum Oil Co.	Lub. Oil and Gr.	2,770	"
24	"	Lub.	15,240	"
24	J. Light & Sons	"	4,000	"
24	Burnaby & Chantrell	Lub. Gr.	1,400	New York
25	Liverpool Warehousing Co.	Lub.	2,800	"
25	"	"	240	Hamburg
25	Pickford's	Lub. Oil and Gr.	250	"
25	Worthington & Boler	"	5,120	Philadel.
25	W. B. Dick & Co.	Lub.	11,480	"
25	Vacuum Oil Co.	"	440	New York
26	"	"	36,760	Philadel.
26	"	Lamp	5,800	"
26	Dee Oil Co.	Lub.	2,600	"
26	Meade-King, Robinson & Co.	"	43,360	"
26	E. Harrison & Co.	"	12,000	"
26	Bowring Petroleum Co.	"	1,240	"
26	Anglo-American Oil Co.	Lub. Oil and Gr.	31,000	"
26	Bramwell, Fern & Co.	Lub.	2,930	"
26	Crew, Levick & Co.	"	67,830	"
26	"	M. Colza	6,290	"
26	Liverpool Warehousing Co.	Lub.	240	Bari
26	A. Hopps & Sons	Lub. Resid.	5,200	Montreal
27	Crew, Levick & Co.	Resid.	11,470	N. News
27	Price's Patent Candle Co.	Lub.	2,400	Philadel.
27	C. C. Wakefield & Co.	"	2,680	"
29	Fellows, Morton & Clayton	"	1,890	"
29	American Line	M. Colza	6,000	"
29	"	Lub.	5,080	"
29	Mercers Exploration Co.	"	1,000	"
29	Worthington & Boler	"	6,800	New York
29	Anglo-American Oil Co.	"	58,800	"
29	Huxley & Co.	"	120	Ghent
BARROW—				
29	Anglo-American Oil Co.	Lamp	717,860	Philadel.
BRISTOL—				
23	British Petroleum Co.	"	1,755,000	Port Arthur
23	J. R. Bush	Lub.	31,960	New York

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DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
Sept. BRISTOL—				
24	Pickford's	Lub. Oil and Gr.	400	Hamburg
24	E. Stock & Sons	Lub.	240	"
CARDIFF—				
27	Bristol Steam Navig. Co.	Lub. Oil and Gr.	460	"
29	A. Payne & Co.	Lub.	120	"
GLOUCESTER—				
25	Bristol Steam Navig. Co.	"	2,290	"
GRIMSBY—				
19	J. Sutcliffe & Son	"	260	Antwerp
26	"	"	150	Hamburg
26	"	"	690	Antwerp
GOOLE—				
22	Goole Steamship Co.	"	160	Hamburg
HARWICH—				
23	Great Eastern Railway	"	260	Antwerp
24	"	"	40	"
25	"	"	740	"
26	"	"	140	Rotterdam
HULL—				
23	T. M. Roberts & Co.	"	250	Antwerp
23	T. Wilson, Sons & Co.	"	22,200	New York
25	W. Gilyott & Co.	"	4,200	"
25	Wilson's & N. E. Railway	"	1,360	Antwerp
26	"	"	120	Hamburg
29	"	"	1,120	"
29	"	"	80	Antwerp
MANCHESTER—				
23	J. Nall & Co....	"	2,700	Philadel.
23	Liverpool Storage Co.	"	12,280	"
24	Worthington & Boler	Turps. Sub.	1,820	"
24	D. Currie & Co.	Lub. Gr.	3,850	Hamburg
25	Worthington & Boler	Lub.	4,120	Philadel.
26	W. Hodgson & Co.	Lub. Oil and Gr.	5,350	New York
26	"	Lub.	1,800	"
26	Diamond Lubricating Co.	Lub. Gr.	2,690	"
26	Bramwell Fern & Co.	Lub.	610	"
26	Liverpool Storage Co.	Lub. Oil and Gr.	12,410	"
26	Anglo-American Oil Co.	"	79,960	"
26	"	Lub.	127,660	"
26	Pickford's	Lub. Oil and Paste	120	Hamburg
26	McLiners, Ltd.	Lub.	2,730	Philadel.
26	Crew, Levick & Co.	"	2,960	"
26	Bramwell Fern & Co.	"	19,800	"
26	Anglo-American Oil Co.	Lub. Oil and Gr.	75,200	"
27	G. B. Taylor	Lub.	2,600	"
27	Anglo-American Oil Co.	"	1,040,000	New York
27	"	Lamp	161,030	"
27	F. Leyland & Co.	Lub.	5,280	"
29	C. H. Morton & Son	"	7,890	Philadel.
NEWCASTLE—				
23	P. H. Matthiessen & Co.	"	220	Bergen
23	"	"	240	"
23	Tyne-Tees Steamship Co.	"	4,010	Hamburg
24	"	"	120	"
27	"	"	920	"
NEWPORT—				
29	M. Jones & Co.	"	740	Antwerp
SOUTHAMPTON—				
22	P. E. Curry	"	1,030	New York
SWANSEA—				
25	R. Turpin	"	3,280	"
25	Burgess & Co.	Lub. Gr.	180	Hamburg
ABERDEEN—				
26	D. Alexander & Sons	Lamp	640	"
26	R. C. Reid & Co.	Lub.	40	"
26	"	Lamp	1,600	"
26	"	Lub. Gr.	120	"
GLASGOW—				
23	Clyde Shipping Co.	"	240	Antwerp
23	"	Lub.	860	"
24	Allan Bros. & Co.	"	19,720	Philadel.
25	"	Lub. Gr.	320	"
27	Maclay & MacIntyre	Lub.	12,000	N. Orleans
29	Anchor Line	"	21,920	New York
29	"	M. Colza	2,600	"

DATE.	PORT AND IMPORTERS.	DESCRIPTION.	NO. OF GALS.	PORT WHENCE.
Sept. GRANGEMOUTH—				
23	W. G. Yooll & Co. ...	Lamp	3,360	Hamburg
23	Jas. Currie & Co. ...	Lub.	7,000	"
26	" " " " " " " "	"	80	"
26	W. G. Yooll & Co. ...	Lamp	2,400	"
LEITH—				
18	W. G. Yooll & Co. ...	"	4,360	"
24	Jas. Cormack & Co. ...	Lub.	400	Riga
25	W. G. Yooll & Co. ...	Lamp	4,360	Hamburg
26	G. Gibson & Co. ...	Lub.	280	Antwerp
29	W. G. Yooll & Co. ...	Lamp	4,360	Hamburg
29	Jas. Currie & Co. ...	Lub.	1,080	"
BELFAST—				
20	G. Heyn & Sons ...	"	6,070	N. Orleans
23	J. C. Pinkerton & Co. ...	"	650	Hamburg
25	" " " " " " " "	Lub. Gr.	140	"
25	G. Heyn & Sons ...	Lub.	1,280	Riga
DUBLIN—				
26	P. Murphy & Co. ...	"	120	Hamburg
Deduct—			6,744,510	
LONDON—				
13/6	Port Authority ...	"	400	S. Petersburg
9/7	Produce Brokers Co. ...	"	2,600	Philadel.
23/7	M. K. Robinson ...	Lub. Oil and Gr.	1,000	Baltimore
20/8	Lubricating & Fuel Oils Co. ...	Lub.	1,940	Batoum
26/8	Anglo-American Oil Co. ...	Fuel	1,520	Kustendje
28/8	" " " " " " " "	Gas	10,860	Sabine
HULL—				
9/9	Wilson's & N. E. Railway ...	Lub.	2,000	Hamburg
MANCHESTER—				
23/8	Anglo-Mexican Petroleum Products Co. ...	Fuel	7,940	P. Mexico
23/8	" " " " " " " "	Gas	210	"
			6,716,040	

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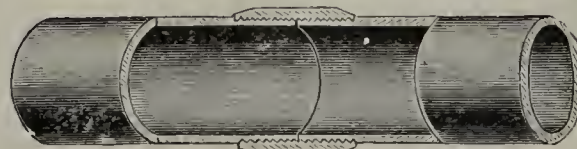
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Prices remain the same as follows:—

- No. 1 Russian, £12. 2s. 6d.
- No. 2 Russian, £10. 17s. 6d.
- American pale, from £9. 12s. 6d.
- American dark, from £11. 2s. 6d.
- American filtered cylinder, from £13. 12s. 6d.

FUEL OIL

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TURPENTINE.

American Turpentine, spot 29s. 6d.; October/December, 30s.; January/April, 31s.

LIVERPOOL.

October 2nd.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8¾d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, September 4th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterfly," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
" Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, October 2nd.

Oklahoma crude is still quoted at \$1.03 per barrel. Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, October 2nd.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, September 30th.

The petroleum prices remain unchanged. The demand for kerosene begins to be lively, that for benzine decreasing. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, September 30th.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 57–57½ copecs per pood spot. Mazout, 54½–55 copecs. Kerosene, 72½–73 copecs.

ROUMANIA. September 30th.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Bushtenari	Francs.
" " " Moreni	...	6.00–6.70
" " " Tzintea	...	4.50–5.00
" " " Policiori	...	4.25–4.75
" " " Bana	...	8.20–8.75
Paraffin	...	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	26.00–26.50
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	18.00–18.50
Residuals, f.o.b. Constanza	...	7.00–7.50
Gas Oil	...	8.00

AUSTRIA. September 30th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 31.50 kronen at Oderberg. Benzine, 740/750, 26 kronen; 750/760, 23 kronen, 760/770, 21 kronen, at Oderberg. Gas oil, 7.00 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, E.C., report under date October 2nd as under:—

Prices of oilplates are unchanged and steady as under:—

1c	18¾×14	124 sheets	110 lbs.	13/6	per box.
1c	20×10	225 "	156 "	19/3	"

F.o.b. Wales. Tin lining and iron hooping extra as usual.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

The American Oil Market.

Saturday, September 20th, 1913.

WITH no featuring developments in the crude situation during the week interest centres in the review of field operations. Throughout the Pennsylvania fields the effect of continued water scarcity has been felt and completions for the week have shown a further set-back, with a corresponding decline in new production. Prospects for a renewal of activity in the high-grade fields are encouraging with the first relief from the water shortage; while the defined limits are likely to command the bulk of attention no abatement to wild-cat drilling is expected under the stimulating market conditions. There are still evidences of keen wild-cat operations in West Virginia, says the *Oil Paint and Drug Reporter*, especially in the western counties, where a new development is coming to the front. This is the Beech Bottom pool in Buffalo township, Brook county, and while the territory is regarded as promising to reach a fairly productive scale, it is limited to about 1,000 acres. The oil is found in the Berea grit. One of the late completions in this development was good for 100 barrels a day, while another one came in with a natural flow of 50 barrels a day. Operations in Harrison county are assuming keener interest and a large amount of experimental work is reported.

The Crooksville development of Perry county is the leading attraction of the South-eastern Ohio fields, and a large amount of new work is in progress in that section. Besides the encouraging rates at which the older wells are holding up, new completions are of sufficient capacity to sustain drilling interest at the keen pitch. The most important of the week's completions in the Crooksville district was a well rated at 200 or more barrels a day, and besides its size, interest in the well lay in its location, about one and a half miles in advance of production. Another wild-cat well nearly as far removed from the defined limits was reported to have developed a very strong gas pressure. Washington county in the same section furnished a 50-barrel produced which attracted attention, chiefly as striking the pay in the Big Injun formation, which was said to be a new feature for that section.

Advices from the mid-continent field give every promise of drilling activity over the balance of the year, and with relief from the water scarcity now experienced there will be strong efforts to make up for the loss incidental to the extreme drought of the last three months. On the present outlook and on the basis of a total production of 42,883,989 barrels for the first eight months of the year, the output for the last four months is expected to bring the 1913 aggregate to 65,000,000 barrels, marking a record for the field. One of the more interesting of recent developments has been the bringing in of a good well twelve miles north of Ponca City, and west of the Osage in Kay county, which promises to open a district to contribute to the prospective increase in the year's production. The deliveries of the leading operating company of the field during August amounted to 3,025,567 barrels, making the total deliveries so far this year 22,373,738 barrels. The same company's runs for August were 3,002,295 barrels, with the eight months' total 24,356,432 barrels. Stocks on hand at the close of August were 41,747,748 barrels. Drilling is expanding generally to the Kansas

fields, and in some of the least expected sections operators are being rewarded by finding oil. A few good wells are reported at Tyro, along the Oklahoma line.

Refined Products.

The local market for illuminating oil has commanded a more liberal volume of sales both for domestic and export amount. Interest in the foreign situation has been principally in the closing of charters for more distant loading, one of the engagements covering February-March shipments, while others have been for January-February and November-December. Quantities were unspecified and the steamers were unnamed, although guaranteed. All three bookings were for China at the following specifications: Chinkiang and (or) Shanghai, 25c., November-December, two ports North China 26½c., January-February, and Kinkaing and (or) Hankow, 27½c., February-March, all New York loading. There were also engagements for 180,000 cases (two gallons to the case), four ports of Australia, 29½c., October, from New York, and 150,000 cases from Port Arthur to East African ports on the basis of 31c. for one port, October.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. Sept. 20.	1913. Sept. 20.
Pennsylvania	\$1.60	\$2.50
North Lima	1.04	1.39
South Lima	0.99	1.34
Indiana	0.99	1.34
Illinois, above 30 degrees	0.87	1.30
Kansas and Oklahoma	0.70	1.03
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex	0.75	0.90
Californian, Coalinga light	0.65	0.60
" Kern River heavy	0.35	0.35
CANADIAN OIL	1.44	1.79

REFINED—FOR EXPORT.

		Week ended Sept. 20.	
In cents.		S.W.	W.W.
		110 test.	150 test.
Bulk, New York	per gal.	5.00	6.00
Barrels, New York, cargo		8.70	9.70
Barrels, Philadelphia		8.70	9.70
Cases, New York		11.00	12.00
Cases, Philadelphia		11.00	12.00

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000	\$11.15
1,000 to 3,000	11.25

REFINED—JOBGING LOTS.

In barrels, pkgs. included.

130 fire test, S.W.	11½
150 fire test, W.W.	12
From tank wagons	8½-9

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29½

TOTAL EXPORTS.

	Current week.	Since Jan. 1, 1913.	Since Jan. 1, 1912.
	Gallons.	Gallons.	Gallons.
Crude	8,147,915	112,971,329	90,091,625
Refined	21,180,680	642,487,927	650,250,210
Naphtha	4,325,205	82,190,485	108,150,670
Gas oil	—	23,222,880	48,006,485
Fuel oil... ..	13,750	98,460,210	59,799,220

WORTHINGTON & BOLER,

LIVERPOOL, LONDON & GLASGOW.

From Lloyd's

OCTOBER 2ND, 1913.

THE "REVIEW" SHIPPING LIST.

The following abbreviations are used in this table:—L. Left. Pd. Passed. Arr. Arrived. Sp. Spoken. T. Trading. Cl. Cleared
The Anglo-American Co.'s vessels marked thus (*). The Anglo-Saxon Co.'s tankers thus (Δ). Messrs. Lane & Macandrew's thus (□).

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
ADORNA	Payta	Arica	Arr. ab't Sept. 29	CZAR NICOLAI II. ..	Batoum	Hamburg ..	Pd. Dardanelles
AMERICAN	Antwerp.....	New York ...	Pd. Dover Sept. 26	DAGHESTAN	Marseilles ...	Batoum	L. Sept. 30
APPALACHEE*	New Orleans.	—	L. ab't Sept. 29	DANUBIAN □	Tyne	Port Arthur..	Pd. Sand Key
APSCHERON	Genoa	Kustendje ...	L. Sept. 26	DAYLIGHT (Br. Bq.)	Philadelphia.	Hiogo ...	Sept. 29
ARAL	Sunderland ..	Philadelphia.	Pd. Cape Race Oct. 1	DELAWARE*	Philadelphia	Liverpool ...	Arr. May 1. In port July 12 for E. Coast United States
ARAS	Philadelphia.	Rotterdam ...	Arr. Sept. 29	DERBENT	Batoum	Antwerp.....	Pd. Delaware
ARCA	Barrow	Malta	Pd. Sagres Sept. 29	DEUTSCHLAND	New York ...	Stockholm ...	B'water Sept. 20
ARTHUR VON GWINNER	—	—	Launched Eins- warden Dec. 24. Since complet'g	DIAMANT	Philadelphia.	Aarhus	Pd. Dardanelles
ASHTABULA*	Callao	San Francisco	Arr. Sept. 20	DONAX	Tyne	Port Arthur.	Sept. 30
ASTRAKHAN	Philadelphia.	Calais	Off the Wight Sept. 30	EDWARD L. DOHENEY	Tyne	Tampico.....	Pd. Dover Sept. 29
AUREOLE	New York ...	La Pallace ...	L. Sept. 30	EL LOBO	San Francisco	Lobitos	6 miles E. of Caister Sept. 27
AZOV	San Francisco	Payta	Arr. ab't Sept. 29	EL SEGUNDO	San Francisco	Seattle	L. Sept. 19
BAKU STANDARD...	Kustendje ...	Antwcrp.....	Pd. Dardanelles Sept. 25	EL TORO	Kustendje ...	Manchester..	Arr. Sept. 11
BALAKANI □	Port Arthur.	Belfast & Manchester	L. Newport News Sept. 29	ELAX Δ	Palembang ..	Singapore ...	Arr. Oct. 1
BATOUM	Port Victoria	Tyne	Arr. Sept. 11. In port Sept. 22	ELISE MARIE	Malmo	Tyne	Arr. Sept. 27
BAYONNE	Savona	—	L. Sept. 19	EMANUEL NOBEL...	Batoum	Antwerp.....	Arr. Sept. 30
BEACON LIGHT	Port Arthur.	Devonport..	L. Sept. 21	ENERGIE	New York ...	Tampico.....	Arr. Sept. 15. In port Sept. 30
BLOOMFIELD	Tuxpan	New Orleans	Arr. Sept. 27	ERIVAN	Batoum	Ronen.....	Pd. Sand Key
BORJOM.....	Alexandria..	Batoum	Cl. Constanti- nople Sept. 24	ESTURIA	Colombo	Sabang	Sept. 17
BRILLIANT (Br. Bq.)	Philadelphia.	Kobe	Arr. August 10	EUPLECTELA Δ	Kustendje ...	Stockholm ...	Pd. Dardanelles
BRILLIANT	Copenhagen.	Philadelphia.	Pd. Dunnet Hd. Sept. 20	EXCELSIOR	New York ..	Hamburg ...	Oct. 1
BRITISH SUN	Amsterdam ..	Savannah ...	155 miles from Brow Hd. Oct. 1	F. A. TAMPLIN	P. Mexico ...	London	L. Sept. 25
BROADMAYNE	Tyne	New York ...	Arr. Oct. 1	FRANCE MARIE.....	Port Arthur.	Tampico.....	Pd. Gibraltar
BUFFALO	San Francisco	Woosung ...	L. Sept. 23	(Belgian Ship)	—	—	Sept. 30
BULLMOUTH Δ	Hangkow ...	Balek Pappan	L. Sept. 26	GEESTEMUNDE ..	Sabine.....	Tampico.....	Arr. Sept. 12. In port Sept. 30
BURGERMEISTER PETERSEN	Stettin	New York ...	Arr. Sept. 28	GENESSE*	Philadelphia.	Manchester	L. Norfolk, Va., Sept. 18
C. A. CANFIELD* ...	New Orleans	Tampico.....	L. Port Eads Sept. 19	GEORGIAN PRINCE	Philadelphia.	—	L. Sept. 17
CALCUTTA (Br. Bq.)..	San Francisco	Yokohama ...	Arr. ab't Sept. 4	GOLDMOUTH Δ	Batonm ...	Singapore ...	Arr. Liverpool Oct. 1
CAMILLO	Balek Pappan	ThamesHaven	Pd. Dungeness Oct. 1	H. C. HENRY.....	Amsterdam	Seattle ...	L. Sept. 20
CAPTAIN A. F. LUCAS	—	—	T. United States, Pacific	HAGEN	Hamburg ...	Kiel.....	Pd. Perim
CARDIUM Δ	Rotterdam ...	Tyne	Arr. August 30. In port Sept. 22	HAINAUT (Barge) ...	—	—	Sept. 30
CARPATHIAN □	New Orleans	Sunderland	Arr. Sept. 29	HARPORT	Tocopilla ...	San Francisco	Arr. Eagle Har- bour Sept. 22
CAUCASIAN □	Port Arthur.	London & Amsterdam	L. Newport News Sept. 30	HARRY LUCKENBACH	Havana	Philadelphia	Arr. July 25. In port Sept. 30
CHARLES E. HARWOOD	Trial trip ..	Tyne	Arr. Sept. 29	HARRY WADSWORTH*	Newport News	New York ...	T. between Tampico and Aransas Pass
CHARLOIS.....	Rotterdam ...	Sabine Pass..	Arr. Sept. 24	HELIOS	Copenhagen..	Sabine.....	Arr. Sept. 27
CHATHAM.....	New Orleans.	Tampico.....	L. Port Eads Sept. 15	HERA	Hamburg ...	Philadelphia.	Arr. Sept. 21
CHESTER	Antwerp.....	New York ...	Pd. Scilly Sept. 16	HERBERT G. WYLIE	Sabine	Tampico.....	L. Sept. 25
CHEYENNE	Novorossisk..	—	Pd. Dardanelles Sept. 28	HERMIONE	Port Victoria	Kustendje ...	L. Sept. 15
CIRCISSIAN PRINCE	—	—	T. W.C. South America	HESPERUS	Campana ...	Taltal	Arr. Sept. 28
CITY OF EVERETT	Tampico.....	New York ...	283 miles W. Tortugas Sept. 21	HORLEY	Tampico.....	Baltimore ...	L. Sept. 15
CLAM Δ	Kustendje ...	Hull	Arr. Sept. 27. In port Oct. 1	HOTHAM NEWION	Hull	Batoum	Arr. Sept. 27
CLEARFIELD	London	Tyne	Arr. Sept. 17. In port Sept. 30	HYRCANIA	New Orleans	London	Pd. Gibraltar
CLIO.....	Stettin ...	New York ..	Arr. Tyne Sept. 27	ILLINOIS	Hamburg ...	New York ...	Sept. 28
COMANCHEE	New York ...	Jacksonville.	555 miles S. of Scotland Light Sept. 20	IMPEROYAL	—	—	L. Newport News Sept. 29
CONCH Δ	Snez	Abadan	Pd. Perim Sept. 29	IOANNIS COUTZIS...	—	—	Arr. Oct. 1
CONRAD MOHR	Tyne	New York ...	Cl. Sept. 30	IROQUOIS* (Towing Barge Navahoe)	ThamesHaven	New York ...	T. River St. Lawrence
CORDELIA	San Francisco	Taltal	L. Port San Luis August 29	J. B. AUG. KESSLER	Rangoon.....	Portishead ..	Pd. Delaware
COWRIE Δ	San Francisco	Newchwang	Arr. Sept. 28	JULES HENRY	Marseilles ...	Rotterdam ...	B'water Sept. 10
CURRIER	Boston.....	Matanzas ...	986 miles S. of Nantucket Sept. 17	(Fr. Bq.)	—	—	On Govt. Service
CYMBELINE	Rouen.....	Philadelphia.	Pd. Prawle Pt. Sept. 22	JUNO	Palembang...	Miri..	110 miles S.W. of Brow Head Sept. 28
				KANAKUK	Hong Kong..	San Francisco	L. Bizerta Sept. 28
							Arr. May 24. In port Sept. 30
							Arr. Sept. 14
							L. Sept. 8

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
KASBEK.....	Batoum	Cala's	Pd. Dardanelles Sept. 29	RENDOVA (Br. Bq.)	Seville	New York ...	Pd. Bonanza Sept. 20
KIOWA	New Orleans	Swinemunde	L. Sept. 26	RION	Philadelphia.	Garston	Arr. Oct. 1
KOMETA	Kustendje ...	Antwerp ...	Arr. Sept. 19. In port Sept. 30	ROCK LIGHT □	Port Arthur (Tex.)	London & Grangemouth	L. Newport News Sept. 23
KREMLIN	Tyne	Batoum ...	Pd. Dungeness Oct. 2	ROMANY Δ	Thames Haven & Plymouth	Kustendje ...	Arr. Sept. 28
KURA	New York ...	Lisbon & Oporto	Arr. Lisbon Sept. 28	ROSALIND	New Orleans & Norfolk	Hamburg ...	L. Norfolk, Va., Sept. 23
LA CAMPINE	New York ...	Antwerp.....	Pd. Lizard Sept. 2	ROTTERDAM	Rotterdam ...	New York ...	Arr. Sept. 26
LA FLANDRE	Antwerp.....	New York ...	Arr. S. pt. 28	ROUMANIAN □	Cardiff.....	Port Arthur..	Arr. Sept. 30
LA HESBAYE	New York ...	Antwerp.....	L. Sept. 18	ROUMANIAN	Tampico	Baltimore ...	L. Sept. 12
LACKAWANNA*	New York ...	Manchester..	Arr. Sept. 27. In port Sept. 30	PRINCE			
LE COQ □	New York ...	Cette	L. Gibraltar Sept. 28	RUSSIAN PRINCE ..	New York ...	Tampico	L. Sept. 23
LUCELLUM	Portland.....	Port Arthur (Tex.)	Pd. Prawle Pt. Sept. 21	SALAHADJI Δ	Tarakan	Sydney !.....	L. Sept. 27
LUCERNA	Kustendje ...	Cette	Arr. Sept. 27	SAMOSSET	Singapore ...	Karatsu	Arr. about Sept. 29
LUCIGEN	Portsmouth..	Port Arthur (Tex.)	Pd. Needles Sept. 22	SAN ANTONIO.....	—	—	T. Mexican Coast
LUCILINE □	New York ...	Cette	L. Sept. 26	SAN BERNARDO ...	—	—	T. Mexican Coast
LUMEN	Philadelphia.	Marseilles ...	L. Sept. 10	SAN CRISTOBAL	—	—	T. Mexican Coast
LUTETIAN □	Tyne	New York ...	Pd. Dunnet Hd. Sept. 21	SAN DUNSTANO.....	Puerto Mexico	London	Pd. Lizard Oct. 2
LUX □	Gijon	Santander ..	Arr. Sept. 23	SAN EDUARDO	Tuxpan ...	New York ...	Arr. Sept. 27
LUZ BLANCA	Tyne & Amsterdam	Seattle	L. St. Vincent, C.V., Sept. 17	SAN FRATERNO.....	Tuxpan	Bahia Blanca	L. Sept. 12
MAKKAVEI	Alexandria...	Novorossisk..	Cl. Constanti- nople Sept. 8	SAN GREGORIO	Rotterdam ...	New York ...	Arr. Sept. 30
MANNHEIM	Philadelphia.	Hamburg ...	Pd. Delaware B'water Sept. 21	SAN RICARDO	Tuxpan	New York ...	Arr. Sept. 22
MARGARETHA	Barrow	Liverpool ...	L. Sept. 29	SAN SILVESTRE.....	Belfast	New York ...	Arr. Sept. 26
MASCONOMO	San Francisco	Muroran.....	L. August 8	SAN TIRSO	Trial trip	Tyne	Arr. Oct. 1
MASSASOIT	Mi-ike.....	San Francisco	Arr. Sept. 26	SANTA RITA	Port San Luis	Bilbao.....	L. August 27
METEOR.....	London	Batoum	Cl. Constanti- nople Sept. 26	SARANAC* (now named Satanta)	Calcutta	Balek Pappan	Arr. Sept. 17
MEXICAN PRINCE..	Shanghai ...	Kuikiang ...	L. Sept. 28	SAXOLEINE	Philadelphia	Havre	Pd. Delaware B'water Sept. 20
MIJDRECHT.....	Rotterdam ...	Kustendje ...	Pd. Gibraltar Sept. 30	SEBASTIAN	—	—	Launched Dun- dee April 24, since complet'g
MINA BREA.....	Callao.....	Talara.....	L. Sept. 4	SEQUOYA	Calcutta	Balek Pappan	Arr. ab't Sept. 24
MIRA	Venice ...	New York ...	Pd. Gibraltar Sept. 18	SERVIAN □	Cardiff	Port Arthur.	Pd. Barry Island Sept. 28
MITRA	Singapore ...	Gibraltar ...	Pd. Gibraltar Sept. 28	SIOUX.....	Tampico	New Orleans.	Arr. Sept. 22
MOHAWK*	New York ...	New Orleans	L. Sept. 22	SIRIUS (Ger.) ...	Emden	Kustendje ...	L. Sept. 28
MUREX Δ	Shanghai ...	Hong Kong..	Arr. Sept. 20	SOCONY	Tampico.....	New York ...	Arr. July 28. In port Sept. 13
NARRAGANSETT ...	London	New York ...	Arr. Sept. 28	SOYO MARU.....	Calcutta	Abadan	L. Sept. 7
NATICA	Cardiff ...	Colombo.....	L. Suez Sept. 30	SPLENDOR	New Orleans.	Messina	Pd. Sand Key Sept. 19
NELSON	New Orleans.	Juearo.....	Off Juearo Sept. 12	STANDARD	Tuxpan	Philadelphia.	Arr. Sept. 19
NEW YORK*	Rotterdam ...	New York ...	Pd. Prawle Pt. Sept. 23	STROMBUS Δ	Rangoon.....	Port Said ...	L. Sept. 22
NIAGARA	San Francisco	Tsingtau ...	L. Sept. 26	SULTAN VAN	Balek Pappan	Singapore ...	Arr. Sept. 28
NORMAN BRIDGE..	Tampico	New York ...	Arr. Sept. 30	LANGKAT Δ			
OBERON.....	Port San Luis	Taltal ..	L. Sept. 9	SUNLIGHT (Br. Bq.)	Flushing ...	Maeoris ..	Pd. Zeebrugge Sept. 27
OCEAN	Amsterdam .	Philadelphia.	Pd. Lizard Sept. 20	SURAM	Antwerp.....	Norfolk	Pd. Lizard Sept. 16
OILFIELD	Philadelphia.	Venice	Pd. Cape D'Armi Sept. 26	SUWANEE*	Philadelphia.	Sunderland..	Pd. Delaware B'water Sept. 22
ORIFLAMME □	Tyne	Philadelphia.	Arr. Sept. 29	TECUMSOH	Tuxpan	Tampa	Arr. Sept. 21
OSAGE	New York ...	Savona	Arr. Sept. 26	TELENE Δ	Singapore ...	Hong Kong..	L. Sept. 25
OTTAWA*	Sunderland & Terneuze	New Orleans	Arr. Norfolk, Va., Sept. 28	TEREK	Sabine.....	Foynes	Arr. Sept. 30
OURAL	Kustendje ...	Trieste	Pd. Dardanelles Oct. 1	TEXAS	Bayonne, N.J.	Port Arthur..	Pd. Sand Key Sept. 20
PATELLA Δ	Rangoon	Port Said ...	L. Sept. 25	TIFLIS	Philadelphia.	Rouen.....	Pd. Lizard Oct. 1
PAUL PAIX.....	New York ...	Dunkirk.....	L. Sept. 21	TONAWANDA*..	Sunderland..	New York ...	Pd. Flambro Hd. Oct. 1
PAULA	Dantzic	Copenhagen .	L. Sept. 29	TRINCULO.....	Port San Luis	Bilbao.....	L. August 30
PAWNEE	New York ...	Rotterdam ...	L. Sept. 26	TRINIDADIAN.....	Tuxpan	Tampa	380 miles N.E. of Tuxpan Sept. 22
PECTAN	San Francisco	Antofagasta..	Arr. Port San Luis Sept. 15	TRITON	Hamburg ...	Baton Rouge	Off the Wight Sept. 15
PENNOIL	Rotterdam...	Port Arthur..	Pd. Lizard Sept. 22	TROCAS Δ	Calcutta	Rangoon ...	L. Sept. 27
PETROLEINE	New York ...	Havre	L. Sept. 22	TURBO	Novorossisk..	Port Said ...	L. Sept. 29
PETROLEUM	New York ...	Longhope ...	L. Sept. 10	UNCAS	Calcutta.....	Singapore ...	Arr. ab't Sept. 8
PHOEBUS	Antofagasta..	San Francisco	L. Sept. 18	VEDRA	New Orleans.	Hamburg ...	Pd. Dover Sept. 29
PINNA □	London.....	Port Arthur..	Pd. Dover Sept. 19	VILLE DE DIEPPE (Norwegian Barque)	La Pallice ...	Philadelphia.	L. August 26
PONUS	Tientsin	San Francisco	Arr. Sept. 24	VITRUVIA.....	—	—	Launched Clyde July 12, since completing
POTOMAC*	London	Sabine.....	85 miles W. of Lizard Sept. 27	VOLCANUS	Soesoe.....	Singapore ...	L. Sept. 28
POWHATAN.....	Mi-ike.....	San Francisco	L. Sept. 12	VOLUTE Δ	Balek Pappan	Woosung ...	L. Sept. 22
PROMETHEUS.....	Baton Rouge & Campana	Callao.....	L. Campana Sept. 25	WABASHA.....	San Francisco	Yokohama ...	Arr. about Sept. 12
PRUDENTIA.....	Trinidad... ..	New York ...	Arr. Sept. 22	WANETA (lt. Impoco)	Port Aransas	Tampico	Arr. Sept. 18
PURELIGHT	Philadelphia.	Dover	Pd. Dungeness Oct. 2	WASHINGTON	Kustendje ...	Tampico	Arr. Port Said Sept. 27
QUEVILLY (Fr. Bq.)	New York ...	Rouen.....	L. Sept. 27	WEEHAWKEN	Gijon	New York ...	L. Sept. 23
RADIOLEINE II. ...	New Orleans & Newport N.	Cette	L. Newport News Sept. 17	WILLIAM F. HERRIN	Honolulu ...	Port San Luis	L. Sept. 15
RANELLA	Cardiff	Batoum	Arr. Sept. 28	WILLKOMMEN	Copenhagen..	New York ...	Pd. Dunnet Hd. Sept. 24
				WINAMAC.....	New York ...	Port Said ...	Arr. Fayal Oct. 1

The Petroleum Review Directory.

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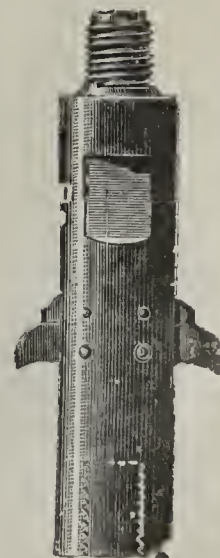
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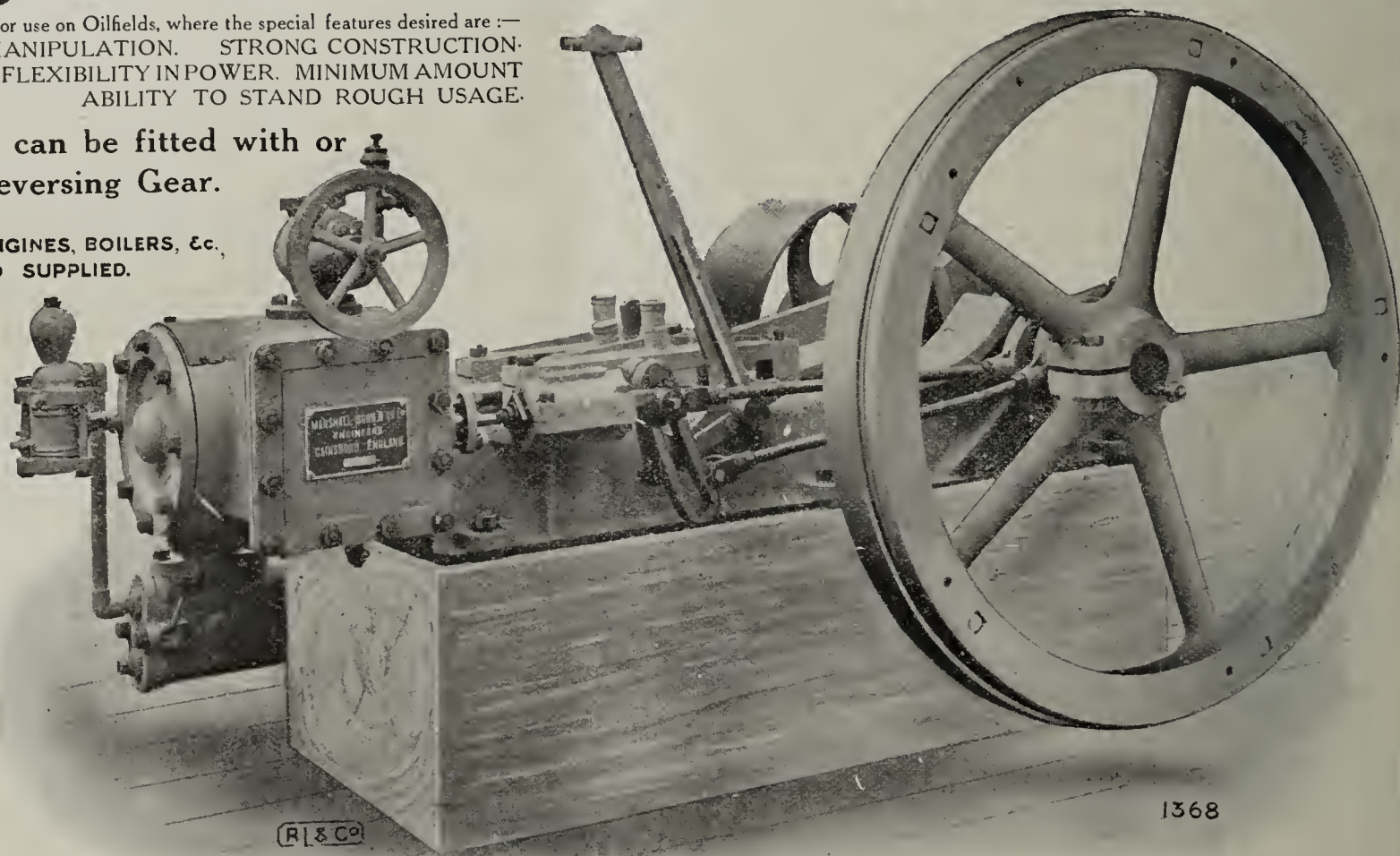
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The Petroleum Review.

Founded by PAUL DVORKOVITZ.

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THE PETROLEUM REVIEW.

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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

The Progress of the "Shell" Company.

THE statements made at yesterday's meeting of the "Shell" Transport and Trading Company, Ltd., by Sir Marcus Samuel, though highly gratifying in themselves, would not come to many shareholders as a matter

of surprise, for it has been what one might term an open secret that the "Shell" and its allied interests have lately been and are still passing through a period of prosperity which is perhaps unparalleled in the history of companies associated with the petroleum industry. To-day the combine is of international importance, for it has vast interests in almost every part of the world; yet, even now its widely spread organisation has not grown to its full extent. We would commend our readers to carefully peruse the report of the meeting, which appears upon other pages.

This Week's Record Petroleum Imports.

AS an eloquent sign of the times the week's petroleum imports into the United Kingdom have reached the hitherto unknown total of over 15,000,000 gallons. The greater part of the cargoes have been made up of illuminat-

ing oil, which import accounts for over 11,000,000 gallons, while in addition there have been substantial imports of benzine, gas oil and liquid fuel. The imports of the fuel have been by the Anglo-Mexican Company, and the cargoes of gas or solar oil have been on account of the Anglo-American Company. But the products of Mexico are not limited, as many might imagine, to liquid fuel, for during the past few days a part cargo of Mexican spirit has been imported to the order of the Bowring Petroleum Company, which influential concern, it will be remembered, is marketing Mexican oils and spirit on this side of the Atlantic. There is no doubt that the bulky imports of the past few days are but a reflection of the increasing tendency of petroleum consumption in this country.

Exploitation of Russia's State Petroliferous Lands.

THE Inter-department Committee which, under the chairmanship of the Minister of Trade and Industry, has been engaged in dealing with the question of exploitation of petroliferous lands of the State, has now completed

its work. The committee has considered a project submitted by the Ministry of Trade and Industry to organise a State petroleum exploitation on an area of a little over 20 dessiatines, from which the Ministry expects to obtain about 20,000,000 poods of oil during the first year. The general organisation of the State petroleum exploitation will be made according to the project in the same way as the State management of the Ural State works is organised. The project of the Ministry of Trade has met with strong criticism from the Ministry of Finance, which considers it as almost unrealisable. Moreover, State petroleum exploitation in the opinion of the Minister of Finance will not settle the fuel crisis, as the production will form but a small percentage of the total output of crude oil in Russia. At the same time the project may prove to be a very dangerous experiment, as it will undoubtedly damage private initiative. The fuel crisis may only increase, as the State petroleum production will necessarily minimise, the influx of private capital into the petroleum industry, and thus cause a greater decrease in the production. On the other hand, the Minister of Ways of Communication is of the opinion that the projected measure will be the best regulator of petroleum prices, as the cost of petroleum itself will then be quite clear to the Government. Thus the committee has not arrived at unanimity, and the question has now been transferred to the Council of Ministers.

California and its Increasing Output.

IN spite of a great decline in oilfield activity throughout the producing fields, California during August recorded a production of crude oil which is the highest yet reached in any single month in the history of the State's

petroleum industry, and large as the demand for petroleum products now is on the Pacific coast, the month's output exceeded that of consumption by approximately 1,000,000 barrels. With two-thirds of the present year completed, it is now comparatively an easy matter to arrive at the total output of the California fields for the present year, and this figure cannot be far short of 100,000,000 barrels, or an increase over last year's output of nearly 10,000,000 barrels. It may be interesting here to mention that to-day the Standard Oil Company controls over one-third of the State's total oil production; the Southern Pacific and the Associated, which are affiliated concerns, are responsible for 22 per cent., while the Union, together with the Independent Agency, is responsible for another 20 per cent. Add to this the 12 per cent. which is owned by the General Petroleum Company, and it will be seen that these five concerns control almost four-fifths of the State's entire production of crude oil. There is no doubt that the Standard's pre-eminent position has been achieved by reason of its enterprise in regard to production, for although it has done more

wild-catting for oil than any other company in the State, it is now securing results which are astonishing the majority of oil men. In the early days of the excitement in the Midway fields, the Standard picked up section after section of land that had been overlooked by men who considered themselves the best judges of oil territory in California, and for a long time the Standard was ridiculed. It rigidly adhered, however, to its policy, and to-day is by far the largest individual producing concern in the Californian fields. All this brings us to the point that in the exploitation of oil-fields the companies that in the long run achieve the greatest success are those whose policy is one of well-directed enterprise.

**Good News
from the
Maikop and
Krimskaya
Fields.**

THE latest news from the Maikop field is eminently favourable as to the outlook therein for increased crude oil production. Mr. George Tweedy, the managing director of the Anglo-Maikop Corporation, Ltd., who has been

on the Maikop field during the last few weeks, telegraphs that he has made a thorough examination of the development work now being carried out there. He states that the general position is satisfactory and that the prospects are favourable for a considerable increase in the total output of the field by the end of the year. With regard to the new field at Krimskaya, the present production is at the rate of 1,000,000 poods per annum, and in view of the large number of wells that are now being drilled, it is considered highly probable that this will be very much increased within a short time. One is so used to hearing gloomy statements as to Maikop and its future that it is distinctly refreshing to hear opinions of an optimistic nature.

KERN RIVER OILFIELDS OF CALIFORNIA, LTD.

Dividends declared.

THE annual report of the directors of the Kern River Oilfields of California, Ltd., of which concern Mr. William Ivey is chairman, has just been issued to the shareholders. It appears that the net profits during the year after charging all administration and other expenses, have amounted to £27,578, which, with the amount received from the Associated Oil Company in respect of oil delivered, brings the total net profit to £31,614. 16s. 5d. The directors recommend the payment of a dividend on the shares of the company at the rate of 3 $\frac{3}{4}$ per cent. per annum, and the transferring of a sum of over £12,000 to depreciation, general reserve, etc., carrying forward £637.

The company is now operating 240 oil wells, the working expenses of which have lately been materially reduced by the installation of electric pumping plant, etc.

The production of oil from section 33 of the company's property during the past year amounted to 148,459 tons, of which 22,000 tons were used for fuel. The company's production for the four months since the closing of the accounts have shown a decline, but this is said to be due to the natural exhaustion of the Kern River field. The board anticipate, however, that the loss in production in this territory will be more than counterbalanced by the production from new properties which the company is now interested in.

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PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended October 4th was 112,000 poods.

SPIES PETROLEUM COMPANY, LTD. — The production for week ended October 5th was 280,990 poods, or about 4,532 tons. The total production for the year, from January 14th to October 5th, was 9,750,935 poods, or about 157,273 tons. The total production for the corresponding period last year was 12,498,405 poods, or about 201,587 tons. Price of crude oil at Baku is now 53 $\frac{1}{4}$ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD. — The production of crude oil for week ended October 4th was 18,988 poods (306 tons).

EUROPEAN OILFIELDS CORPORATION, LTD. — The production for the week ended October 5th was 100,100 poods, or 1,614 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended October 4th was 120,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended October 4th was 29,183 poods (471 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended October 4th was 7,700 poods, or 124 tons.

BRITISH MAIKOP OIL COMPANY, LTD.— Production for week ended October 5th was 11,404 poods, or 184 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.— Gross production for week ended October 4th, 83,700 poods or 1,350 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest production for week ended October 7th was 219,000 poods, or 3,532 tons. Corresponding period last year, 682 tons. Total production to date for this year, 74,570 tons, last year 22,153 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended October 5th was 76,500 poods, or 1,234 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended October 5th was 13,000 poods, or 210 tons.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended October 4th was 14,717 poods (237 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended October 4th was 1,470 poods (24 tons).

GERHARD & HEY, OILFIELDS SHIPPING AGENTS,

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The Extraction of Motor Spirit from Natural Gas.

THE BESSEMER GAS-ENGINE COMPANY'S PLANT.

Now that the utilisation of the casing-head gas of oil wells is commanding the attention of oil producers generally, and these are not limited to those operating in the States and the Californian fields, the demand for gasoline extraction plants is increasing in a remarkable degree.

For many years the waste of natural gas upon oil-fields has been so unlimited as to receive condemnation from many quarters, especially so in the United States, where wells have poured forth their flood of volume of natural gas quite unchecked into the open air. But this remark applies not only to the United States. In the vast majority of oil-producing countries appreciable quantities of natural gas accompany the search for oil, and valuable though this gas is, both as power and light, it has until quite recently been allowed to pass into the air and thus wasted.

The utilisation of this gas appears to have simultaneously occurred to the operators of many fields, but to the credit of the American producer be it said that he has been the first to appreciate its value, and utilise its power. But he has gone further than his

colleagues in the European fields, where we are only just upon the eve of natural gas displacing steam for the boilers on the fields. The American operator has carried his enterprise a little further, for by the adoption of an ingenious system of condensation, he now receives gasoline or motor spirit from the gas which hitherto went to waste. The quantity of gasoline received varies naturally, not only with the quality of the escaping gas but in regard to the means adopted for its utilisation. Hence, while some producers still look upon the condensation of oil-well gases as a policy which is not commercial, many other operators are receiving as much as two gallons of gasoline from every thousand cubic ft. of natural gas which comes from the wells, and in this way they are to-day making the condensation of their well gases one of the most profitable portions of their operations.

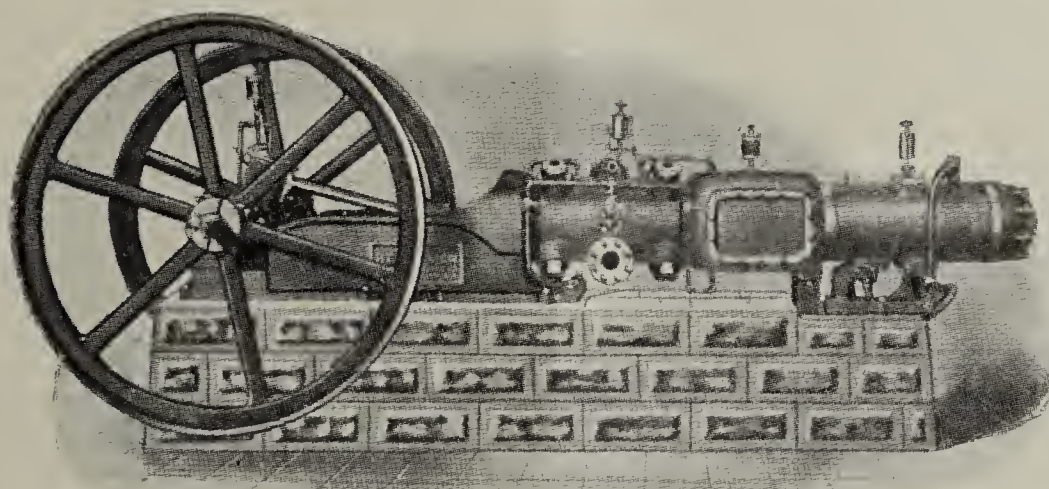
It is estimated that at the time of writing no less than 50,000 gallons of gasoline are each day received from the treatment of the natural oil-well gases in the Californian fields, and judging by the way in which the number of plants are being increased it seems certain that in the early future this amount will be considerably augmented.

It must not be imagined, however, that all oil-well gases will yield commercial quantities of motor spirit; this remunerative proposition has to be ascertained by the aid of the chemist, who can quickly decide which gas yields a sufficient portion of volatile liquids carried in suspension as condensible vapour, to render its treatment commercially possible.

The fact remains, however, that to-day, and more so in the not distant future, a significant portion of the production of motor spirit necessary for the world's needs will be met by the condensation of oil-well vapours.

In such circumstances, more than ordinary interest is bound to attach itself to the now well-known gasoline extraction plants manufactured by the Bessemer Gas Engine Company, of Grove City, Pa., for it is this

company which has been the pioneer in the manufacture of plants for the extraction of gasoline from natural gas. As the result of months of research work, combined with exhaustive experiments, the credit can be given to the Bessemer Company for having placed this remunerative branch of oil pro-



Bessemer Direct Gas Engine Driven Compressor, Open Crank Case.

duction not only upon a scientific but also upon a commercial basis, and the success which has attended the company's effort in this direction has been well earned. To-day, large as is the commercial extraction of gasoline from natural gas carried on in the Mid-Continental and Californian fields, it is a fact that over 90 per cent. of the gasoline plants in use contain Bessemer equipment.

The importance of the system of extracting motor spirit from casing-head gases has now spread far beyond the confines of the American continent, for already inquiries are on foot for installing, compressing and condensing plants upon many properties, both in the Roumanian, Russian and Galician fields, and it is not too much to hope that in the not far distant future the principle will have been placed upon a commercial basis in Europe.

We learn that our friends the Oil-Well Engineering Company, Ltd., of Cheadle, Cheshire, and London, are handling the Bessemer Company's equipment in this country, and, therefore, we should suggest that those of our readers who desire to hear more about the claims of the Bessemer Company's plant should get in communication with them.

The Creation of an International Petroleum Institute.

By Professor L. MRAZEC.

(Concluded from page 330.)

CONCLUSIONS.

THE institute will serve as : (1) A Central Statistical Bureau of Petroleum. (2) A library which will contain all the literature and legislation on petroleum subjects. (3) A museum containing everything concerning petroleum deposits, technology of petroleum, transport and storage of petroleum, safety measures, statistical tables, etc. (4) A laboratory where petroleum could be analysed and scientific and practical investigations carried out. (5) A bulletin will be published on the result of scientific investigations on conferences, statistical and economical data, and generally every kind of information relating to the science, industry and commerce of petroleum over the whole world. This bulletin will be published in one or several languages. (6) Conferences on petroleum subjects will be organised from time to time.

The work carried out in the International Petroleum Institute will render direct services to the petroleum industry of the country as well as abroad, in trying to solve all the actual questions under discussion, relating to the exploitation, treatment, transport and safety measures of petroleum and its products.

Being of an international character, the Institute will study questions and publish statistics of an international interest, but it will at the same time also promote purely national interests ; and it is therefore only logical that Roumanian enterprises should grant it their financial support, for instance, in the shape of a small tax of 5 to 10 centimes per ton on crude oil extracted. As the Roumanian production already reaches the figure of 2,000,000 tons a year, the Institute would

thus have at its disposal a sum of 100,000 to 200,000 francs a year.

The Roumanian Government draws from its tax on crude oil alone 1,000,000 francs yearly in addition to other revenues in one way or other, and it is only logical to expect that the State should sacrifice a small portion of this revenue in order to benefit the Institute under consideration. Financial support would also have to be provided by other States interested in petroleum, just as it is done by them with regard to other institutions of a similar nature, such as the Zoological Station at Naples, where almost all countries have special reserved tables and possess the right of sending their own scientists there in order to carry out investigations. Private individuals would also be admitted to the Institute by paying a small contribution.

Of course a considerable sum of money would have to be secured for preliminary expenses, such as establishment of the laboratory, etc., but this sum could be easily raised by means of a voluntary subscription among the producers of all countries, etc.

Attempts to create such a Petroleum Institute have already been made in 1910 in America, where it was projected to create a Petroleum Institute which should centralise everything concerning petroleum in America itself. Recently the question was also put forward in Austria. There was also a question of establishing an International Petroleum Institute at Karlsruhe, which is at present the central seat of the International Petroleum Committee ; but in the writer's opinion the geographical position of the city of Karlsruhe, far from all petroleum deposits and the centres of the refining industry, is not at all favourable for the idea of choosing it as the seat of the International Petroleum Institute.

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NOTES FROM THE OILFIELDS.

AMERICAN.

The Electra Field.—The most interesting well completion in this field for some time has been the bringing in of the Producers Oil Company's well, which is now yielding nearly 2,000 barrels a day.

A Huge Pipeline.—A huge pipeline to transport gas developed in the Midway Oilfields of California to the city of Los Angeles has recently been completed and placed in operation. The pipe is 12 ins. in diameter and over a hundred miles long.

Increased Gasoline Production.—From the wells on the properties of the Birch and Brea Canyon Oil Companies, in the Brea Canyon field, about 6,000 gallons of gasoline is now being manufactured per day, and it is believed that this quantity will soon be materially increased.

Another Pipeline Proposition.—Mr. F. P. S. Harris, the representative of the "Shell-Royal Dutch Interests," in California, has announced that the company is proposing to build a pipeline from the Coalinga fields to tidewater, and that arrangements are now being perfected to this end.

More Oil-Fuel Burning Vessels.—Plans are under way to transform the large Pacific Coast Steamship Company's steamers—the "Governor" and the "President"—into oil-fuel burners, the change being made in order to effect economies in running and to provide more cargo space.

A New "Oil Finder."—Mr. J. M. Bourland, of Bakersfield, California, has invented a new instrument with which he asserts he can find oil, gold and silver, with certainty. He describes the instrument as consisting "of a cigar-shaped casing filled with certain secret substances and two zinc handles connected by fine copper wires, similar to an extension cord."

Another Large Gas Well.—After experiencing a great deal of trouble in the drilling of a well in the McKittrick field the United States Oil and Mining Company has brought in a well which is now producing 8,000,000 cubic feet of gas per day. The company is now making some arrangement whereby the operating oil companies in the field can use the gas for power purposes.

The Standard's New Gasoline Plant.—The Standard Oil Company is now working upon an expanding process of manufacturing gasoline from the gas in the Newhall field of California. The Company has a Bessemer plant installed capable of handling 500,000 cubic feet of gas per day. The process to be used is the submission of the gas to a temperature of 20 degrees below zero, the idea being that the lower the temperature the larger the percentage of gasoline.

RUSSIAN.

Petroleum at Khadijinsk.—The Minister of the Army has declared free for exploitation five new areas at Khadijinsk in the Kuban province.

Nobel Bros. in the Terski Province.—Messrs. Nobel Bros. have acquired four plots situated in the village of Vosnesensk, in the Terski province, each of an area of $37\frac{1}{2}$ dessiatines.

New Petroleum Company.—Under the name of Pkhoveli Petroleum Society a new petroleum enterprise has been formed for the purpose of the exploitation of petroleum in the village of Pkhoveli, in the Tiflis province.

Petroleum Exploitation in the Kuban District.—The Minister of the Army has authorised the leasing to private people of five petroliferous plots, each of ten dessiatines, situated in the Ilsk-Kholmsk village, in the Kuban province.

New Deals in Petroliferous Lands.—The Ministry of Trade and Industry has granted the Russian Petroleum Society permission to acquire in the village of Zikh, in the Baku district, two plots, one of an area of one dessiatine and the other of two dessiatines.

Gas Exploitation on the Caucasus.—The St. Petersburg-Caucasian Petroleum Company has been allowed by the Ministry of Finance to acquire in the village of Amiradjan two plots, one of an area of $492\frac{1}{2}$ square sages and the other of 2,030 square sages, both for the purpose of gas exploitation.

Transfer of Plots in the Bebe-Aibat Bay.—The Ministry of Trade and Industry has authorised the transfer of the plots Nos. 6, 9 and 16 in the Bebe-Aibat Bay to Messrs. Lessner & Beliamin, on the basis of a 25 per cent. royalty to be paid on the production to the State Exchequer.

Caspian Society.—Capital 750,000 roubles. The 26th (1912) operating year of this company shows a profit of 2,217,157 roubles, of which a 15 per cent. dividend amounting to 1,125,000 roubles has been distributed amongst the shareholders. 66,939 roubles were transferred to the reserve capital, and 646,889 roubles to the amortisation fund.

Petroleum on the Uchta.—The geological investigation of the Uchta district made by the Ministry of Trade and Industry has shown the average depth of petroleum deposits to be about 300–400 ft. The average daily yield per well is reckoned to be about 50 poods, while at Baku it is 500 poods: but then the boring at Uchta will cost ten times less than at Baku. All data point to the Uchta district as being very practicable for petroleum exploitation, under the condition, of course, that good means of communication will be established, and that is why the Mining Department has submitted a project for a new railway from Nadejinsk through Uchta to Archangelsk.

ROUMANIAN.

Prices of Products.—The prices of products on the interior market are stationary for kerosene, but residuals are firmer.

Prices.—The prices of crude oil are stationary. For the moment refiners keep on the reserve for the most important transactions at actual prices.

Production.—The general production is at present over 5,000 tons per day. An important increase is shortly expected owing to the coming into production of wells situated in an area of 100 metres round the well "Colombia."

Sphinx Petroleum Company, Ltd.—The well of this company at Tzintea has met oil at a depth of 204 metres in a second stratum of petroleum. Preparations for extraction are now being made with good hopes for a large production.

Orion.—This company is gradually resuming work as the work-people are returning to the fields. The production of this company amounts at present to 180 to 190 tons per day. An increase in production is shortly expected.

Next Meeting of the Association of the Boring Engineers.—It has been decided that the next meeting of the Association of Boring Engineers will take place at Bucarest, and the Roumanian Minister of Industry has already granted his authorisation, and has promised every possible help.

International.—The well No. 2 of this company at Gura Ocnicei which struck oil in the middle of August last, has commenced eruptions. The first eruption produced 100 tons in ten hours, after which a natural cork was formed. It is now being cleaned with very good prospects for a large production.

Amalgamation of the "Concordia" and "Colombia."—The "Concordia" and "Colombia" have entered into an agreement for the common exploitation of their fields at Romana, on the basis of royalties to be paid by each company to the other one, on the oil to be obtained by one company on the property of the other.

Cobalcesco Company.—The well of this enterprise, which has proved the petroliferous nature of the locality by striking a stratum of petroleum at a depth of 450 metres, has now been repaired and produces about ten tons per day. A Canadian pump has been established by means of which the yield has increased to 30 tons per day.

New Pipeline.—The Credit Petrolifer has erected a new pipeline which will join the new field of Copaceni to the station of Scaioishi. The new line, of a length of 6 kilometres, will give a powerful development to this important field, where besides the Credit Petrolifer, several other companies are working, among which are the "Alfa" and "Roumano-Belgian."

Astra-Romana.—The production of this company during the last week has averaged 1,298 tons per day, of which 939 tons were obtained at Stavropoleos, 129 tons at Bana, 57 tons at Campina, 169 tons at Filipeshti, and the rest on the fields. The well No. 7 at Filipeshti struck oil on the 7th of last month and now yields from 100 to 120 tons per day.

The Steaua-Romana.—The production of this company during the past week has reached 1,000 tons per day; over 516 tons were produced at Campina and 226 tons at Policiori. Regular eruptions were registered at the wells, 35 Gahitza with 63 tons per day, 160 Gahitza with 55 tons per day, 232 Runcu with 21 tons per day, and 16 Moineshti with 80 tons per day.

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THE illustration which we herewith publish is of more than ordinary interest inasmuch as it depicts the canning department of the Plymouth refinery recently built for the Taranaki (New Zealand) Oil Wells, Ltd., with a complete installation of the

well-known can-making plant of Messrs. J. Rhodes & Son, Ltd., Wakefield. The plant is capable of turning out about eight hundred complete cans per day, each having a capacity of four English gallons of oil.



THE PETROLEUM TRADE OF GERMANY.

Statistics for July.

THE imports of petroleum and products into Germany during July were as under :—

	Tons.
Crude oil	116
Benzine, crude	35 278
„ refined	618
Solar oil	3,797
Kerosene	54,396
Lubricating oil	30,938
Paraffin	1,115
Other products	48
Total	126,306

The origin of the imported kerosene, crude benzine and lubricating oil was as below :—

From.	Kerosene. Tons.	Benzine. Tons.	Lubri. Oil. Tons.
United States	41,447	6,003	12,990
Austria	7,047	1,825	3,376
Roumania	4,276	9,710	2,312
Russia	1,613	6,163	12,500
Dutch Indies	—	7,866	—
Other countries	13	3,711	110

EXPORTS OF PETROLEUM PRODUCTS FROM AUSTRIA.

Details for the First Half-Year.

THE total quantities of various products exported from Austria during the first half-year amounted to 257,141 tons, as against 309,332 tons exported during the corresponding period in 1912.

The following table shows the exports to various countries :—

To	Kerosene. Tons.	Benzine. Tons.	Lubricating Oil. Tons.	Paraffin. Tons.
England	—	—	33	252
Belgium	273	2,116	6,317	117
Germany	77,205	28,266	29,431	6,593
Hamburg transit	19,522	1,629	14,054	2,962
Italy	3,437	595	3,368	4,409
France	9,318	4,948	965	696
Switzerland	10,365	3,243	4,355	202
Other countries	2,942	2,721	12,236	3,372
Totals	123,062	43,518	70,759	18,603

The exports of crude oil amounted to 830 tons, and those of ozokerite to 2,584 tons.

THE OILFIELDS OF BURMA.

Their History and Development.

Reprinted from
"Memoirs of the
Geological Survey
of India."
Volume XL, Part 1.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

(Continued from page 342.)

THE MINBU DISTRICT.

AN oil seepage and two Burmese wells occur W.N.W. of Salin, in the Minbu District, some three miles N. by W. of the village of Ngahlaingdwin and six miles from the Salin Chaung, which is here flowing parallel to the strike of the rocks in a S.S.E. direction. This area was visited by Mr. Cotter, to whom I am indebted for the following facts. The oil indications occur on the crest of an asymmetric fold which runs in a N.N.W. to S.S.E. direction as usual and is here pitching strongly towards the S.S.E. Contrary to the usual state of affairs the western limb is steeper than the eastern, W.S.W. dips of 53° , 54° , 60° and 66° being opposed to E.N.E. dips of 30° , 41° , 42° . Between the anticlinal crest and the Irrawadi sandstone to the east, a thickness of about 9,000 ft. of Pegu beds is exposed. Westwards, these rocks bend up into a syncline and are succeeded by "Nummulitic" beds. In the beds exposed at the oil seepage were found among other forms a *Heterostegina* and a small Nummulite, which Mr. Vredenburg states is probably of Upper Oligocene age. Above these come beds with fossils of the ordinary Pegu type, and further up beds with *Turritella simplex* and *T. acuticarinata*. The highest beds are current-bedded and contain *Cyrena (Batissa) crawfurdi* and *C. khodan-gensis*, *Paracyathus caeruleus*, *Arca* sp., *Ostraea* sp., *Cardita planicostata*, *Turcica protomonilifera*, fossil wood in small pieces, and selenite. The latter mineral appears to be absent from the older strata. With regard to the Irrawadian fossil wood is mostly confined to the lower horizons, and the basal beds are characterised by very thick ferruginous conglomerates. Part of the recent alluvium has been derived from or affected by the plateau gravel or red earth, and it is difficult to draw any boundary line between them.

One of the Burmese wells is in steeply dipping beds and possibly upon an outcropping oil-sand. If it is desired to test this anticline, its steep pitch must not be lost sight of.

A visit to the Minbu area, which lies on the west bank of the Irrawadi and includes the town of Minbu, was made early in 1907, and the greater part of the Pegu-Irrawadian boundary mapped. The Pegu beds which form part of a sharply folded asymmetric anticline and crop out from beneath Irrawadi sandstone, are concealed in the north by plateau red earth, and in the extreme south become part of a large exposure of Pegu. The general direction of the anticlinal axis is 20° W. of N. to 20° E. of S., but there are deviations from this in certain blocks. The block-line of the map extends 29° W. of N. to 29° E. of S., and is therefore not usually parallel to the anticlinal axis.

All the main streams run eastward into the Irrawadi from a watershed close to the right bank of the Sabwet Chaung and running in a direction a little E. of N. to a little W. of S. The plateau is well marked between

the watershed and the Pegu outcrop, but most of the latter has been deeply dissected by streams, and occupies very hilly ground. The hills, in general, are very steep, especially east of the anticlinal crest. The commonest form assumed is that of a long ridge running parallel to the anticlinal axis, some hard limestone or conglomerate band forming the summit and in many cases the dip slope also. Another characteristic type, though not so frequent as it is at Yenangyat, is the "tetrahedral" already described. North of blocks 1N and 2N and south of blocks 13S and 14S, the plateau, though intersected by watercourses, is more continuous and there are no conspicuously dominating hills.

The upper portions of the stream-beds are very steep and frequently interrupted by falls, while the lower portions are choked with sand. During the dry season water is found only in the largest watercourses and only in small quantities. A very common feature is the "drowning" of the mouths of many of the streams, which took place during the deposition of the lower recent alluvial silt. Through some rise in the Irrawadi all low-lying ground, including the mouths of many of the streams, and in some cases whole valleys, became flooded and converted into alluvial flats; so recent has been this inundation that many of the smaller streams have not yet had time to carve their way through the alluvial deposit, but end abruptly in a channelless flat. A good example will be found in the alluvial plain bordering the south bank of the Sabwet Chaung, which receives scores of small streams from the enclosing hills but is practically undissected itself except along the margin of the Sabwet stream, where an independent drainage system is commencing. In large streams, such as the Yenau Chaung or the stream immediately north of Nandawgon village, these two drainage systems, viz., that of the hills and that of the alluvial plain, have coalesced, and the main stream finds its way by a meandering course to the Irrawadi. The main streams are irregular but their general direction is parallel to the dip of the beds, while the primary tributaries are long, straight, often deeply-cut channels running in the direction of strike. The drainage, however, is super-induced and was initiated on an almost horizontal surface of plateau red earth. Consequently we find, especially wherever there is any thick deposit of this earth, streams running oblique to dip and strike; where these have cut down to the underlying Tertiaries, the course becomes a winding zig-zag, the successive portions of the zig-zag being parallel alternately to the dip and strike of these strata. A good example of this is to be seen in a large tributary to the Kyauk O Chaung in Block 7S, where the sequence of hard and soft Tertiary beds is indicated not only by the zig-zag course of the tributary, but also by the series of straight secondary tributaries entering the latter and flowing parallel to the strike along the outcrop of each bed. Owing to the sinking of the river, what must

once have been clean cliff-sections, have now become overgrown with grass or jungle or obscured by talus.

The flora and fauna need no comment. *Gyi* are plentiful, especially in the south around the Tat Chaung, where also *thamin* and occasionally pig are to be seen. Leopards are plentiful also, and are a source of considerable annoyance to the villagers.

The Pegu rocks are of the type already described. In this area, as at Yenangyaung, there are good examples of local simulation of Irrawadi sandstone, for instance, at Block 6S, just west of Kywetho Myaung, near the Sekkate Pagoda Block 2S, and in Blocks 12S and 16S. The blue clay so peculiar to freshly exposed Pegu beds is seen at Leit Taung in the stream-bed north of Khwematet Taung in the large tributary of the Yenang Chaung, and in the Yenang Chaung itself. Selenite is plentiful. Near Khwematet Taung and in the Chedawya Chaung occur examples of the curious pipes of yellowish mud-stone referred to under Yenangyaung, which are possibly old mud-channels. Fossil bands are abundant but are usually difficult to trace; in many the fossils are fragmentary and practically unidentifiable.

Another bed is characterised by the fragmentary condition of its fossils and abundance of *Rotalia*. *Globigerina* is often present and occasionally *Textularia*. Bryozoa are usually present together with *Ostræa*, *Placenta orbicularis*, *Pecten kokenianus*, *Balanus tintinnabulum*, *Carcharias gangeticus*, and *Twingonia*. This bed is found in Block 1S, under the bridge crossing a tributary to the Sabwet Chaung on the road between Minbu and Kyauktan, whence it can be traced on to the high ground northwards and is found west of the rifle range in 2N: a bed probably

identical with it runs west of the low hills forming the European quarter of Minbu, east of the crest.

A bed in the western part of Block 13S, yielded numbers of specimens of *Flabellum distinctum*, Milne Ed., and another bed in the large western tributary of the Sadwin Chaung, south of Block 17S, was crowded with the same fossil; in the latter, among others, *Rotalia* and specimens of a *Meiocardia* resembling *M. protovulgaris*, Noetl., were obtained.

The basal beds of this series contain a considerable quantity of ferruginous, calcareous conglomerate of the usual type. Some of the conglomerate beds are coarse and contain moderately large pebbles, as, for example, that which forms such a conspicuous feature on the river bank at Taukshabin. As the boundary bed I have chosen, chiefly on account of the occurrence of fossil wood above it, a smaller and more patchy conglomerate a little below this, but the boundary is not well defined and is approximate only. On the west in Block 1N it is apt to be reduced to a coarse pebbly sandstone, but here and southwards the conglomerate mapped is mostly hidden beneath red earth deposits and difficult to trace: its horizon may be a few feet higher than that of the eastern boundary. Vertebrate remains are not uncommon in these conglomerates, but as usual are fragmentary. Among specimens picked up were rhinocerotid teeth, chelonian and crocodile plates, and near Nandawgon the tooth of a deer which, according to Dr. Pilgrim, resembles to some extent both a middle and a lower Siwalik species. Fossil wood is abundant: close to the base in the Tat Chaung palm roots were found. Enormous specimens of *Cyrena* (*Batissa*) *khodaungensi* were obtained from the ferruginous conglomerate of Taunggyi. The Irrawadian, as usual, is locally unconformable to the Pegu: the unconformity can be seen between Kywetho Myaung and Taukshabin.

(To be continued.)



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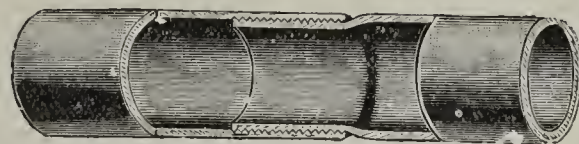
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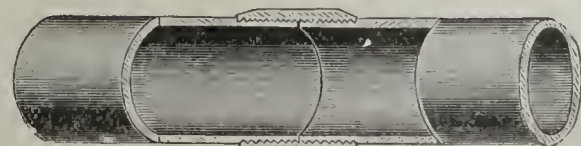
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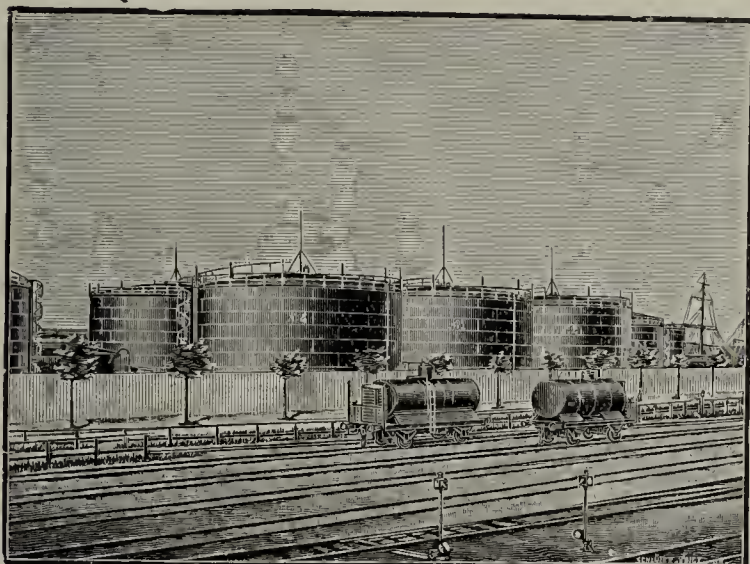
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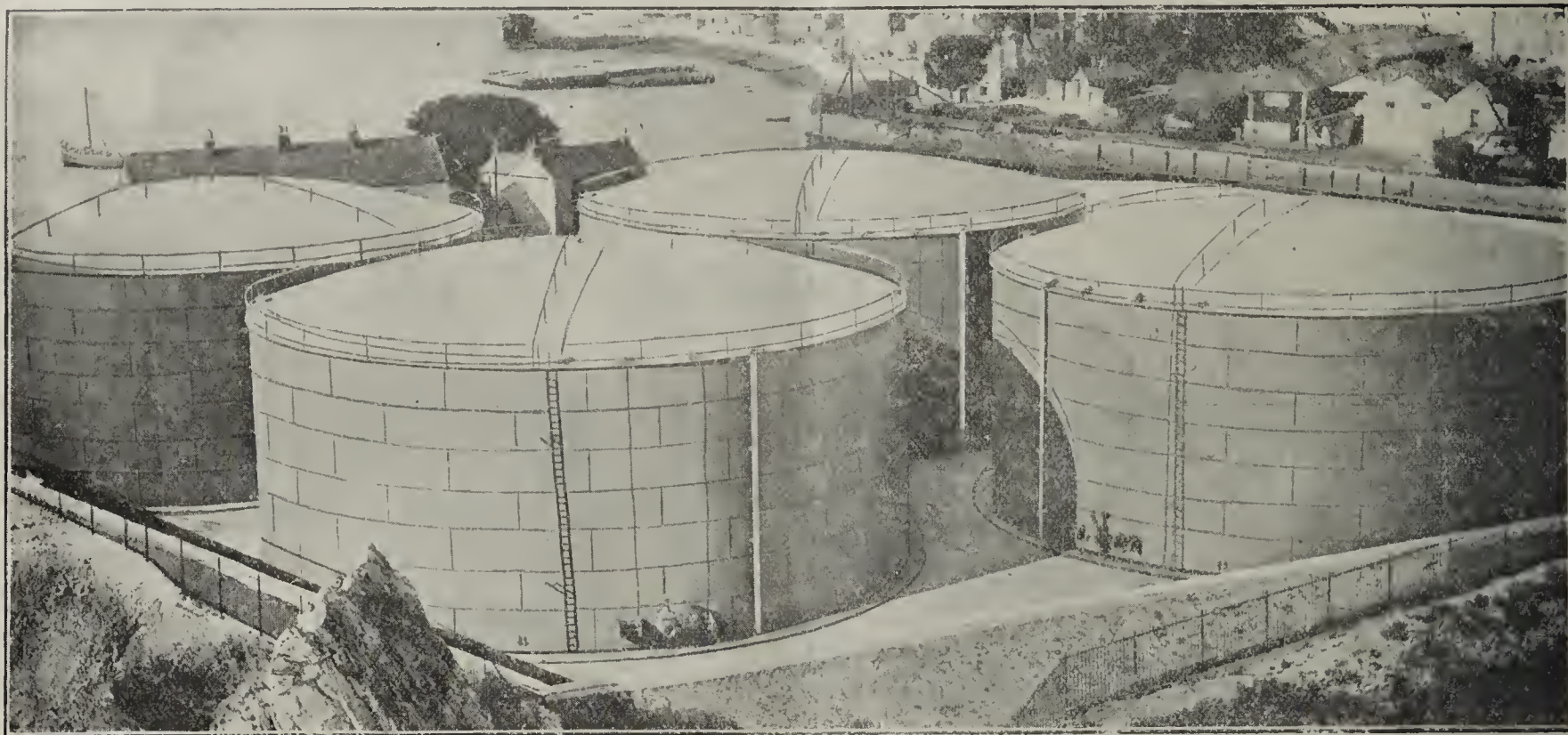
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CHIEF CONTENTS.

	PAGE
Editorial Notes	379
Production of English Companies in Russia	380
The Extraction of Motor Spirit from Natural Gas	381
The Creation of an International Petroleum Institute	382
Notes from the Oilfields	383
New Zealand's First Oil Refinery	384
The Oilfields of Burma	385
Latest Quotations of Petroleum Shares	388
The Roumanian Railways and the Petroleum Industry	391
The "Shell" Transport and Trading Company, Ltd.	393
The Prevention of Waste of Oil and Gas from Flowing Wells in California	395
The Drilling of Gas and Oil Wells	397
Petroleum in the Krimskaya District	399
The Mexican Eagle Company's Minatitlan Refinery	401
Home and Foreign Market Intelligence	402
Petroleum Imports into the United Kingdom during September	403
Imports of Petroleum Products	404

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PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, OCTOBER 11TH, 1913.

**THE ROUMANIAN RAILWAYS AND THE
PETROLEUM INDUSTRY.**

THERE is no doubt that through the medium of its
 railways the Roumanian Government has done
 much to foster and encourage the development of the
 country's petroliferous wealth, for, to a very great
 extent, the great strides which have been made during
 recent years in regard to the development of the

oilfields have been directly traceable to the kindly attitude always shown to the petroleum industry by the Government, more especially from the point of view of the facilities it has given in the way of transport over its railway system.

To-day we know Roumania stands as one of the leading Continental countries, whose petroleum export trade has not only grown by leaps and bounds, but whose future will most assuredly be of international importance, and it is obvious that unless the necessary facilities for transport had been forthcoming by the Government railway departments, the progress already achieved would have been absolutely out of the question, for since Roumania has, up to the present, no pipeline facilities to the coast, it has been solely dependent upon railway transportation.

We are reminded of the important rôle which the Roumanian railways play in regard to the development of the country's petroleum industry by the timely publication of a report issued by the country's Statistical Bureau of the Railways, which document contains some highly interesting information, not only relating to the consumption of liquid fuel by the railways themselves, but it also deals with that important question of the transport of petroleum products, either for home consumption or for export.

During the year 1911-12, it appears that the Roumanian railways had at their service a total number of 772 engines, out of which all but 95 were fitted with liquid fuel burners. The quantity of fuel used in these engines increased from 156,321 tons in 1910-1911 to 185,227 tons in 1911-12, thus showing an increase of 28,906 tons, or over 18 per cent. The total consumption during 1912-13, although not yet known, is certain to amount to more than 200,000 tons. The total value of the liquid fuel consumed amounted to 6,500,000 francs, while the total value of all the fuel consumed was 9,300,000 francs. The following table gives the proportion of various kinds of fuel consumed by the Roumanian railways during the year :—

Foreign coal	...	...	5.76	per cent.
Roumanian coal	...	...	21.63	"
Wood	...	...	8.34	"
Liquid fuel	...	...	64.27	"

Thus the quantity of liquid fuel consumed by the country's railways now practically amounts to two-thirds of the total fuel used. Besides this large quantity of residuals which the railways use for burning in their engines, they consume very substantial quantities

of various products of petroleum for the purpose of producing their motive power in different workshops and factories, as well as for lubricating purposes, etc., so that the total value of petroleum products consumed during 1911-12 exceeded 7,500,000 francs. The number of tank wagons the Roumanian railways had at their disposal for the needs of the petroleum industry amounted last year to 1,482 for residuals, 80 for kerosene, 709 special wagons for residuals, 108 special wagons for kerosene, 26 for benzine and 22 for various products, altogether a total of 2,427 tank wagons, in addition to which 350 wagons were used for the transport of petroleum products in barrels. This number has since considerably increased, and at present amounts to about 4,000 wagons.

The total transport of petroleum during the reported year amounted to 1,199,424 tons of products, as against 942,184 tons transported during the preceding twelve months. Thus during one year an increase of 257,240 tons, or over 27 per cent., has been registered. Out of the total, 675,615 tons were crude oil, residuals, gas oil and goudron, and 523,809 tons were refined products, such as kerosene, benzine, etc.

The revenue received by the Roumanian railways for the transport of petroleum has amounted during the past year to 6,670,586 francs, and is but second in importance to the transport of cereals and timber. The average revenue per ton of transported petroleum was 5.56 francs.

With the laying down of the pipelines from the producing fields to the export port of Constanza the petroleum industry of Roumania will have considerably increased facilities for expansion, and much of the present pressure on the railways in regard to the transport of petroleum products will be eliminated, but, nevertheless, it is certain that the railway transport of petroleum products will still continue to have a great importance upon Roumania's future prosperity.

Romana-Belgiana Company.—This company is increasing its capital of 1,360,000 francs to 2,000,000 francs by means of issuing an additional 2,300 shares of 200 francs each.

Panama Canal Contracts.—The contract for supplying kerosene and gasoline to the Panama Canal Commission for the next twelve months has been awarded to the Texas Company as under: In cans and cases, two five-gallon tins to the case, 100,000 gallons of kerosene at \$1.69 per gallon; 50,000 gallons of gasoline at \$3.18 per gallon; in steel drums, 55 gallons capacity, 100,000 gallons of kerosene at \$1.02 per gallon; and 50,000 gallons of gasoline at \$2.54 per gallon.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO OCTOBER 6th, 1913.

[ALL RIGHTS RESERVED.]

IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Sept. 29.	From Jan. 1.	Since Sept. 29.	From Jan. 1.	Since Sept. 29.	From Jan. 1.	Since Sept. 29.	From Jan. 1.	Since Sept. 29.	From Jan. 1.	Since Sept. 29.	From Jan. 1.	Since Sept. 29.	From Jan. 1.	Since Sept. 29.	From Jan. 1.
Belgium ..	—	—	6,770	569,743	—	—	—	—	—	20,820	—	120	—	4,910	6,770	606,593
Canada ..	—	—	—	7,040	—	46,250	—	—	—	—	—	—	—	—	—	53,290
Dutch Indies ..	—	—	—	—	—	—	—	—	—	32,701,450	—	299,497	—	—	—	33,000,947
Germany ..	4,360	185,160	28,120	2,748,790	—	600	52,590	159,710	—	—	—	400	—	4,610	—	3,099,270
Holland ..	—	—	—	8,720	—	—	—	—	439,000	6,293,340	—	—	590	—	439,000	6,302,650
Mexico ..	1,750,000	5,752,250	—	—	—	—	1,062,590	405,000	1,528,800	870,130	12,830,670	—	—	—	3,025,130	21,174,310
Roumania ..	3,683,000	16,539,037	—	—	—	—	—	—	2,981,830	—	9,027,540	—	—	—	3,683,000	29,698,407
Russia ..	—	9,844,560	1,090	11,393,700	—	389,370	—	—	11,889,350	—	—	—	—	—	1,090	33,516,980
U.S.A. ..	5,637,630	88,068,126	533,790	37,320,954	11,760	192,230	1,747,530	48,418,110	400	18,063,120	—	2,512,630	9,600	779,315	7,940,710	195,554,485
Other Countries	—	80	6,040	121,210	—	480	—	—	—	4,859,240	—	3,620	—	1,460	6,040	4,986,090
	11,074,990	120,389,213	575,810	52,170,157	11,760	628,930	1,800,120	50,790,410	844,400	78,337,950	870,130	24,674,477	9,600	790,885	15,186,810	327,793,022

The "Shell" Transport and Trading Company, Ltd.

PROGRESS OF THE COMPANY'S BUSINESS.

IMPORTANT SPEECH BY SIR MARCUS SAMUEL, BART.

AT noon yesterday (Friday) the holders of preference and ordinary shares in the "Shell" Transport and Trading Company, Ltd., were called together at Winchester House, E.C., for the purpose of receiving from the company's chairman a report upon the progress of the company's business in connection with the new issue of capital—a subject which has already been referred to in the REVIEW.

Sir Marcus Samuel, Bart., the company's chairman, presided, and was supported by a full board of directors,

In addressing the shareholders Sir Marcus said:—

Before addressing you as to the reasons which have led your directors to make a new issue of capital, I propose dealing briefly with the progress of the business during the current year. It is with the greatest pleasure that I am able to inform you that, subject to the maintenance of production, sales, and prices, the net profits of the combined companies for 1913 will amount to at least one million sterling over those realised for 1912.

These extra profits have been obtained, not from any one source or article, but have been derived from the general increase of the company's business, coupled with an advance in price over each of the many articles in which they now trade.

From this you will realise that, in offering the new shares at £3. 5s. per share, plus 1s. for interest, we are giving our shareholders (and it was our intention to give to them) a real and substantial bonus. From the figures I have given you the charge for dividends on the new shares issued will only arise for the final dividends which may be declared for 1913. The 10 per cent. interim dividend on these shares is already provided for.

The new capital, paid up as it will be only at the end of the year, cannot, of course, contribute materially to the profits for 1913.

It is quite different with the shares issued in payment of the properties of which you will be advised in the circular which is attached to the allotment letter, and about which I shall address you at greater length directly. These shares will provide (and probably much more than provide) their own dividends. The number of these shares is 179,646, of which 160,000 are for the purchase of shares of the California Oilfields, Ltd., and 19,646 for the purchase of shares of the 's Gravenhage Association. These yield, at the nominal prices at which they have been issued, the sum of £968,407 whilst we shall receive cash for the 367,964 ordinary shares, which we have invited the shareholders to take up ... £1,195,883

making a total of... .. £2,164,290 derived from the issue of ordinary shares.

We have therefore felt justified in making an issue of a further 50,000 preference shares, and of offering these to the shareholders of that class at par *pro rata*.

We are not in immediate need of this money, for we still have in liquid resources outside the business £1,150,000, but we are rich enough and prosperous enough to be able to keep very large sums of liquid money always at command, and you may accept it as the settled policy of the directors to carry this out.

The business is world-wide, and we are determined that the great distributing organisation which we have created shall not be dependent upon any one field, or upon any one country, or upon any one Government. We shall endeavour to acquire oil territories, so essential to the support of our organisation, wherever they can be found and obtained under favourable circumstances.

It is mainly in pursuance of this policy that we have purchased the Californian oilfields. It is in connection with that purchase that we are providing the large sums that we have asked you to subscribe.

The business which we have obtained has been managed upon lines which commend themselves to us. From time to time properties have been purchased to strengthen the reserves of territory. The oil produced is among the very best obtained in California. We are satisfied that it is going to prove an excellent investment at the price we have paid for it, which was £400,000 in Shell ordinary shares and £400,000 in cash, 60 per cent. of which is provided by the Royal Dutch.

We have also undertaken to jointly find £200,000 in cash to pay off the debentures in the Californian Company, because we are strongly opposed to any oil company in which we have control having debentures at all. After paying off the debentures we save interest, and it leaves us free to reconstruct the company if it is found desirable to do so, and to make provision for the creation of preference shares in it, if this course should recommend itself to its directors.

The California Oilfields property comprises 7,040 acres, of which 4,960 are oil-bearing land. There are 115 wells producing, and 17 being drilled. There are sites for 350 more wells.

The California Company held options upon 800 acres of land adjoining its own, at a price of £650,000. These options we have exercised. 640 acres are oil producing. At present 20 wells have been drilled which are producing, and four more are being drilled, while there is room for 120 more. The remaining 160 acres are undeveloped, but are good oil-bearing property.

Altogether, the Californian property now owned by us consists of 5,760 acres of good oil lands.

The production on the properties and on the California Oil Fields' wells themselves, amounts to approximately no less than 18,000 barrels a day, or about 900,000 tons a year.

If we proposed to handle this production in the same fashion as the vendors did, there would be very little in the deal we have made, except that we are profoundly convinced that the present price of oil of this

quality in California cannot remain where it is, and that an advance is quite inevitable. You can calculate for yourselves that an advance of even 10 cents a barrel on the price which we are obtaining by selling the oil crude, as it is, would suffice to exactly double the dividend upon the properties we have purchased. It is our intention, however, to erect very large storage, and pipelines to, and a refinery at the coast. We estimate that the expenditure to attain these objects, and to provide ample working capital for new developments, may entail an expenditure of something approaching £1,000,000 sterling.

Summarised, therefore, you will see that the total expenditure in connection with the obtaining of this 900,000 tons of oil a year and providing the proper facilities for deriving the greatest advantages from it, amounts to £2,250,000. Of this the Shell Company's share of forty per cent. amounts to £900,000. The whole of this money is not immediately payable, because the titles have to be made good to 320 acres of the new ground. We do not pay for these for at least twelve months, by which time it is hoped the purchasers will be able to satisfy our legal representatives that we may definitely take the property over.

The shares issued in payment of our 40 per cent. of 50 per cent. in the 's Gravenhage Syndicate will show a very handsome return upon the investment. The original intention was to have made this a much larger concern, but the great advance in the price of oil lands since its formation rendered it inadvisable to do this. We, therefore, gave to our associates, bankers and financiers, realisable shares in the shape of Royal Dutch and Shell shares, to enable them to have a marketable security.

The parent companies now hold all the shares in the 's Gravenhage Syndicate, which is at present making a net profit of about \$1,000 a day on the paid-up capital of £447,251, of which £125,692 is actual cash in hand unexpended at present.

Whilst the enormous amounts written off and provided for out of earnings, as depreciation, by the Bataafache and the Anglo-Saxon Petroleum Company, suffice, in a very large measure, for normal expenditure on installations and extensions on existing properties, we could not, without curtailing the cash distribution out of earnings to shareholders to an extent which we do not feel justified in doing, provide for entirely new developments.

The logical outcome of the vast increase in our business means a great addition to our storage capacity and to our fleet. When the numerous vessels under construction are delivered we shall be, to some extent at all events, independent of outside tonnage. Coinciding with the delivery of our own boats, the abnormal position which has ruled in the freight market, and which crippled the extension of the business, has passed, and we expect to see a great increase in the trade in the lower grades of oil when normal freights rule.

The position is a very curious one in the oil world at present. In two great producing countries—Mexico and California—production is in excess of the present demand, and the price of oil per ton as compared with coal is actually less. I am convinced that such a state of things cannot remain permanent, and that when the enormous superiority of oil, even as a fuel, is recognised, it will realise something approaching its value as compared with coal. With the rapid strides which are being made in improvements in the internal combustion engine, not only for marine

purposes, but even for locomotives, oil should be worth at least a ratio of four to one of coal.

Users of liquid fuel need be under no alarm as to supplies, for great developments are in progress. You will find that in this most important movement your directors have not been idle.

The position of the companies in Roumania and in Russia continues highly satisfactory. In both countries we are the largest producers.

It is with great satisfaction that I can announce the future of Sarawak as being beyond doubt, and every effort will be made to obtain quickly a large production of oil.

In Mexico we have acquired, over carefully chosen territory, large areas at very small cost. The first four wells which we have drilled have been successful, but production is small, being only 100 to 200 barrels per well. These are being sunk deeper, and we are quite confident that in time we shall develop a satisfactory production in that country.

Borneo continues to show its extraordinary riches. It is the possession of that field which enables us to enter into contracts which we certainly would not commit ourselves to without it. The wisdom of your directors in consolidating the interests of your company with those of the Royal Dutch Petroleum Company, is proved constantly and daily. Whilst our production in Java shows a satisfactory increase, Sumatra is declining.

Amongst so many successes we must be prepared for some failures. In this connection we repeat that our drilling in Egypt has so far been disappointing. Our agreements with the Egyptian Government are completed, and they have the right of appointing a director to the Board of the Anglo-Egyptian Oil Company. In the new territories, which we have got under the agreement, we are boring on two sections far apart from each other. In one, I am glad to say, at 1,100 feet we have met with a big show of gas. This leads us to hope that we may find in that district some compensation for the disappointments we have had at Gemsah, about the future of which territory we are still in doubt. We have not abandoned hope, seeing that there is a weekly production there still of about 230 tons.

The refinery is completed and commenced working. As we command supplies of crude from other sources which we can treat there, this will at all events pay its way.

Other subsidiaries in which we are interested, and on which we have options on considerable blocks of shares at very much below current quotations, are doing well, and promise to increase the company's earnings.

You will see that the directors could scarcely have placed the interesting facts which I have put before you in the limits of a circular. Holding, as we do, that in the case of so large an increase of capital, shareholders are entitled to the fullest information that directors can give them, you will, I hope, appreciate the spirit which has moved us to call you together.

A hearty vote of thanks having been accorded the chairman and his colleagues on the board, Sir Marcus briefly replied. In doing so, he said he was sure his colleagues joined with him in heartily thanking the shareholders for their vote. The management of such a business as theirs entailed an enormous amount of work and great responsibility, but they were extremely fortunate in the managers, who carried on so much of that work and so much of that responsibility. In their managing director, Mr. Deterding, they had a genius of the highest order, a man of very sound views and great ability, and in his efforts he was very ably seconded by Mr. Waley Cohen, Dr. Cohen Stuart, and by Mr. Loudon, while he (the speaker) gave such attention as he was able to their great business. He could promise them that when the directors had the pleasure of meeting the shareholders again in July, they would place before them an extremely favourable report.

The Prevention of Waste of Oil and Gas from Flowing Wells in California.

By Messrs. RALPH ARNOLD and V. R. GARFIAS.

(Concluded from page 370.)

THE method described below has been used successfully in the Buena Vista Hills for capping some gassers at which no provision had been made for controlling the flow through the inner casing or between casings. As the flow was mainly from the inner casing it was decided to eliminate the chance of the gas flowing between casings after the inner casing had been closed by first placing the equivalent of a blow-out preventer apparatus on the outer casing. An operation of this sort embraces the following general features: A device (fig. 3) with a special cast-iron four-way T, *a*, with stuffing box, *b*, heavy gate valves, *c*, connecting nipples, *d*, etc., is built up.

This is raised about 10 ft. over the casing head, and by means of guy ropes is then lowered to the casing, over the stream of gas, and bolted to the casing head. The valves are then partly or entirely closed. The outer casing is next anchored down by means of the clamps, *e*, embedded in concrete, the inner string being secured to the T with the clamp and bolt arrangement shown in the figure.

After provision had been made in the manner described to prevent possible flow between casings, the operation proper of capping the gasser was carried on as follows:

Details of the method.—An apparatus (fig. 4) was assembled that was made up of two special valves, *a*, *b*, weighing about 4,700 lbs. each, and connected by about 40 ft. of 40-lb. 10-in. casing. Swage nipples reduced the diameter of the apparatus to that of the well casing. The lower valve was provided with a pressure gauge, as shown in the figure. The apparatus was assembled on the ground, the valves being left open to insure free passage for the gas. A collar, *c*, with four rings, was placed in its lower part, and to the rings were attached guy lines that passed through blocks generally made fast to the legs of the derrick. Under the collar, on the upper end of the apparatus, was clamped an elevator, and to this was attached a wire about 30 ft. long, having

its other end tied to the hook of the casing block or to any other suitable block-and-tackle arrangement. The hook was not attached directly to the elevators, as the great bulk of the block would obstruct the passage of the stream of gas. The apparatus was raised about 10 ft. above the casing head where the stream of gas was less compact, and by means of the guy lines and blocks was then lowered to the casing and screwed in place. The flow of gas offered comparatively small hindrance to this operation, as the valves of the apparatus were wide open and the diameter of the apparatus was larger than that of the casing. Care had to be exercised in bracing the apparatus before releasing

the wire line attached to the elevator, so that the vibration caused by the gas would not damage the connection to the well casing. After the apparatus had been screwed in place the valves were closed, thus controlling the flow. The upper valve was provided with a grooved wheel, around which was wound a wire for controlling its operation from the derrick floor.

In case it is desired to "kill" the gas after the flow has been controlled in the manner just described, the following method can be employed: When the apparatus mentioned above has been put in place, as described, the lower valve

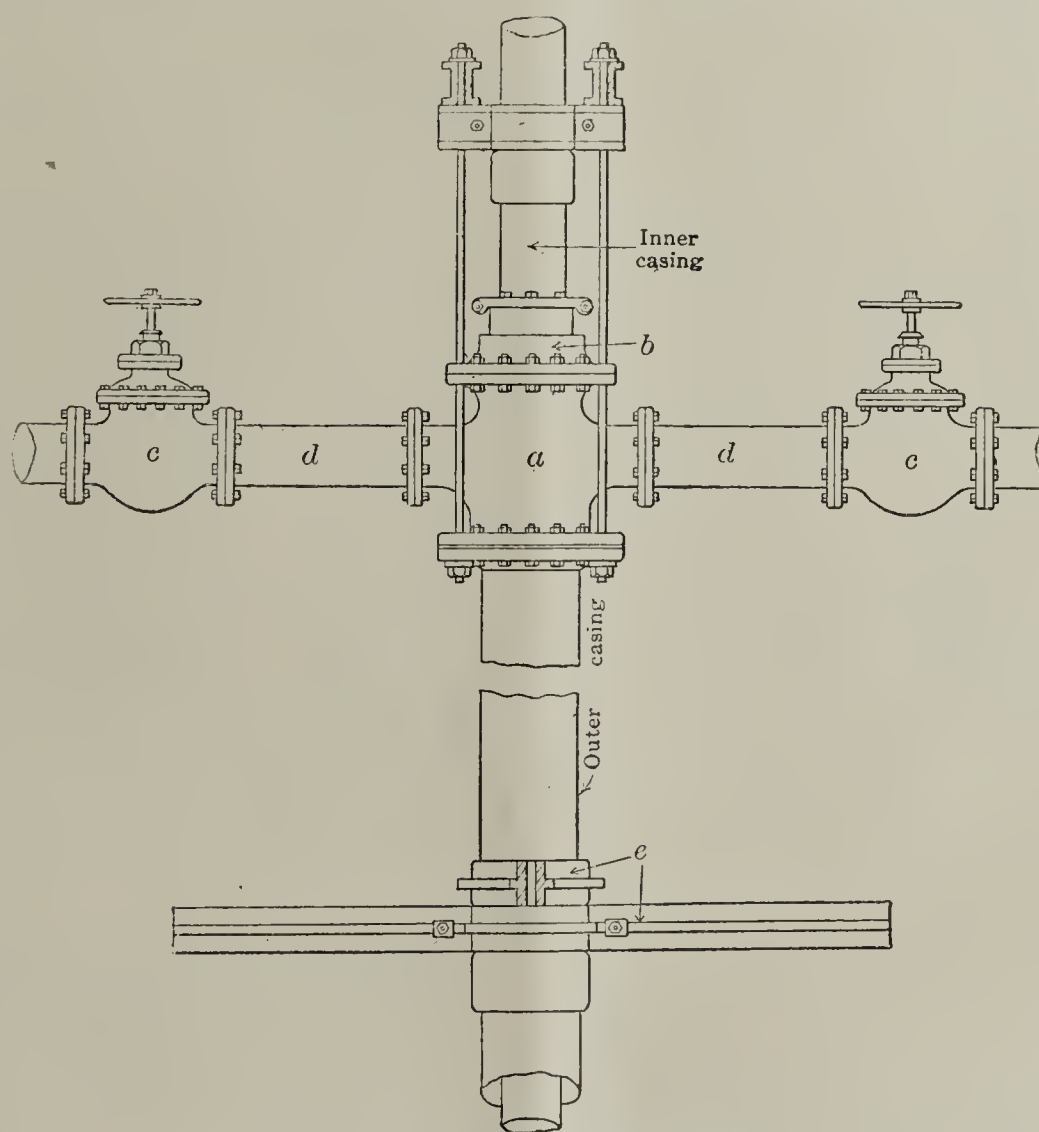


Fig. 3.—Device for Capping a Gasser.

is closed and the 40 ft. of 10-in. casing is filled with muddy water with a pump capable of developing a pressure of 500 lbs. per square inch and fitted with valves that can operate in water containing 40 per cent. of solids. The upper valve is then closed and the lower one opened, thus equalising the pressure throughout the column of liquid, and the mixture of clay and water drops to the bottom of the well. The lower valve is again closed and the upper one opened, thus permitting the escape of the gas above the lower valve, but preventing an increase in pressure from the muddy water pumped in. The operation is repeated until the weight of the muddy water pumped in is enough to overcome the gas pressure, a condition that will be

indicated by the pressure gauge attached to the lower valve. Both valves are then opened, and the well is filled with the mixture, which is afterwards forced into the gas or oil stratum with the pumps. When it is found that no more mud can be pumped in, pumping is suspended for about three hours. It is then resumed until no more mud can be forced into the well. The pressure on the pump is maintained for a few hours, after which it is released slowly, as the sudden removal of pressure might cause the quick ejection of all the

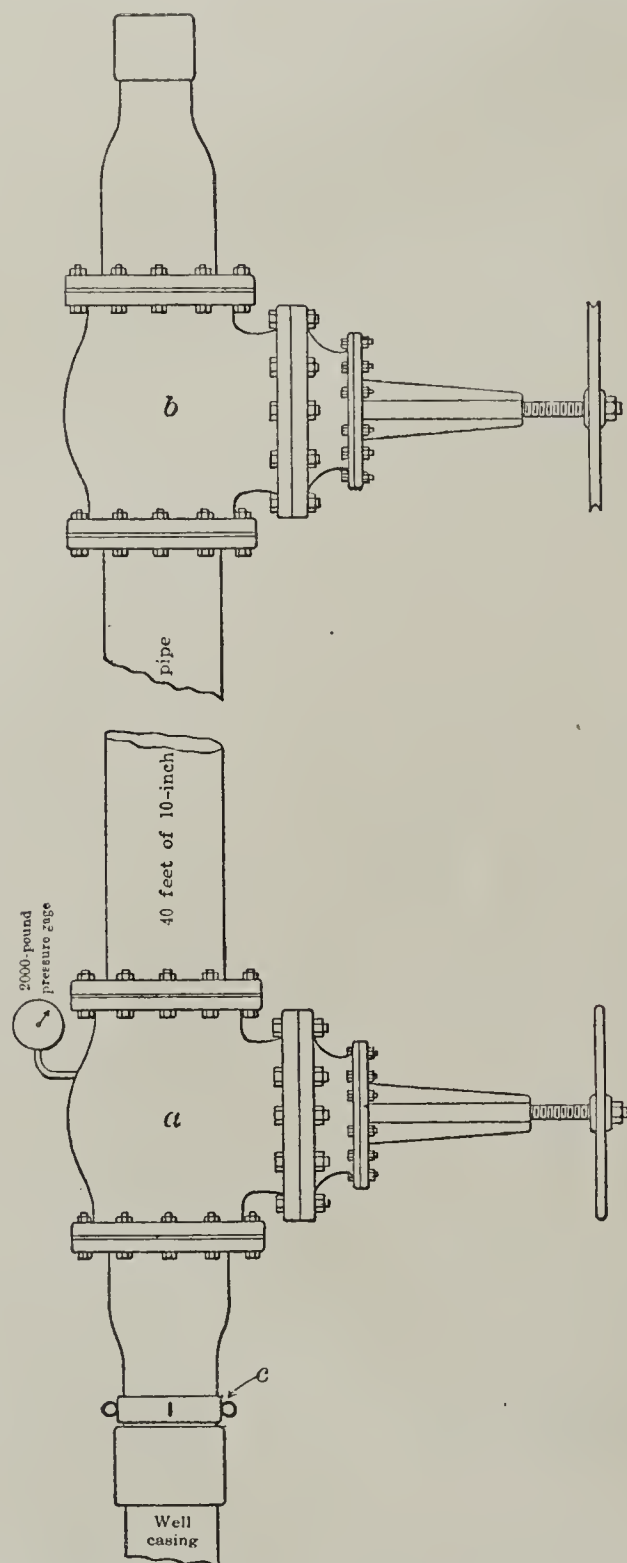


Fig. 4.—Special Apparatus for Capping a Gasser.

material pumped in. The procedure outlined will plaster up the gas or oil stratum with an impervious wall of clay, and the gas or oil thus excluded will not interfere with the further drilling of the well to the oil or gas sands below. If it is subsequently found advisable to recover the gas or oil excluded, this can be accomplished by perforating the casing opposite the clay-plastered beds and reducing the pressure inside the well or baling out the water and mud.

The Magnolia Petroleum Company.—This company has completed the purchase of Smith's Island—a body of land lying between what is known as Old River and the Neches River south of the company's refinery at Beaumont. This purchase is a preliminary step to the company's plan to make use of the deep water when the channel is completed from Beaumont to the sea.

TRIAL TRIP OF S.S. "SAN TIRSO."

ANOTHER addition has just been made to the Eagle Oil Transport Company's fleet of large ships for carrying petroleum oil in bulk. The latest ship to be delivered to these owners is the s.s. "San Tirso," which has been built at the Wallsend yard of Messrs. Swan, Hunter and Wigham Richardson, Ltd. The trial trip has been run off the mouth of the River Tyne and proved entirely successful. A mean speed of over eleven and a-half knots an hour was maintained on the measured mile. The engines and boilers, which were built by The Wallsend Slipway and Engineering Co., Ltd., worked without a hitch to the satisfaction of all concerned. The owners were represented by Captain Bryan Godfrey-Fausset, R.N., one of their directors, Mr. Frank Rendall, general manager, Mr. Barringer, Mr. Walter Bradney and Mr. Grey. The "San Tirso" has been built under the supervision of Messrs. Jacobs and Barringer, the owners' consulting engineers and naval architects. The leading dimensions of the "San Tirso" are 432 ft. in length, with a breadth of 54½ ft. The ship is built on the Isherwood system of longitudinal framing and has a deadweight carrying capacity of 9,300 tons. The ship is similar in design to several ships which Messrs. Swan, Hunter and Wigham Richardson, Ltd., have been building for the Eagle Oil Transport Company. The captain and officers are accommodated in the bridge-house amidships, while the engineers' quarters are in the after-end of the vessel. The seamen and firemen are housed in the forecabin. The engines are of the direct acting surface condensing quadruple-expansion type and the boilers are fitted with Howden's forced draught and also the Wallsend-Howden patent apparatus for burning oil. All the oil-holds and the cross-bunker are fitted with steam pipes for thinning heavy oils. At each end of the range of oil-holds is an isolating cofferdam. The two pole masts are telescopic to allow the ship to pass under the bridge of the Manchester ship canal. Provision is made for wireless telegraphic apparatus, and nothing has been omitted in the ship to make it fully equipped for its service and representative of the best class of oil-carrying ships.

EXPORTS OF PETROLEUM PRODUCTS FROM BAKU.

Statistics for July.

THE total quantity of petroleum products exported from Baku during July amounted to 46,946,883 poods, as against 41,837,278 poods exported during July, 1912.

The following table shows the quantities of various products exported by rail, on the Caspian Sea, and by road :—

		Rail. Poods.	Exported by Caspian Sea. Poods.	Road. Poods.
Kerosene	...	2,718,806	7,377,785	83,706
Lubricating oil	...	677,661	841,534	29,195
Solar oil (Light)	...	63,270	223,524	—
" (Heavy)	...	253,471	359,480	1,041
Residuals	...	694,753	26,389,510	91,663
Crude oil	...	504,732	6,357,761	24,394
Benzine	...	243,964	5,439	5,194
Totals	...	5,156,657	41,555,033	235,193

The Drilling of Gas and Oil Wells. PROPOSED REGULATIONS FOR AMERICA.

By Messrs. O. P. HOOD and A. G. HEGGEM.

An Informative -
Bulletin by the -
Washington - - -
Bureau of - - -
Mines. - - -

(Continued from page 345.)

If the space within the casing contain gas and the casing be corroded through, then there may be a leak of gas into the mine through such corroded openings. It appears, therefore, that ultimate protection depends on the resistance to corrosion of the casing, and it must be required that this protection be reasonable and efficient. It is evident that the larger the amount of metal interposed between the corroding water and the inside of the casing the longer will be the life of the casing.

The corrosive action of acid mine water may, however, be so relatively rapid on metallic parts that the real protective feature must be something other than thickness of metal. Both puddled-clay and cement covering is proposed for this protection against corrosion. Cement has the advantage of stability of form and ease of application, but will crack with a slight movement and is itself affected by acid. If there be any

lateral movement of the ground, the rigid cement casing is apt to be broken and allow corrosive waters to attack the metal casing. Puddled-clay has the advantage of some plasticity in case of movement of the ground; but unless the clay be carefully supported, it lacks the stability of cement in that it may be washed out by water.

In the development of protective methods for casings going through a mine opening or coal bed, it is a question just how far the well operator should be required to go. It is manifest that further protection against corrosion can be had by requiring larger holes and added metallic casings and more layers of clay or cement, but such added protection may entail unreasonable expense on the well operator without a corresponding increase of protection.

Figure 1 shows six methods of casing and protecting wells. From left to right in the figure the methods indicated increase in complexity, cost, and effectiveness.

The casing shown in I of the figure represents one

string of casing (A) closed at top and extending downward to a hard formation above the principal producing sands. In current practice such a casing is carried down to shut off caving material and may pass through several producing sands of minor importance.

Advantages.—Retains the wall from caving and thus plugging the hole and permits the replacing of tubing whenever necessary. Casing can yield laterally somewhat and accommodate itself to distortion. All the casing can be recovered. Cheapest possible form.

Disadvantages.—Allows gas and water to enter the coal seam from upper measures, or permits leakage. Allows water to enter the upper gas and oil sands. Allows intermingling and pollution of waters, springs, and wells. Is subject to corrosion and is without protection.

The casing shown in II (fig. 1) represents a type used in current practice, involving two strings of casing (A and B), the

first extending to a hard formation above the first producing sand, the second extending to a point below all caving material.

Advantages.—Retains wall from caving. Shuts out gas and oil from coal seams. Shuts out water from oil and gas sands. Allows a vent to the atmosphere to dissipate leaking gas. All casing can be recovered. Prevents free intermingling and pollution of waters. Can yield and accommodate itself to distortion.

Disadvantages.—Both casings may be corroded by acid mine water. If the casing is disturbed by movement of overlying strata, the joint at the seat may be broken and gas may escape into the mine. If the casing is corroded and air pressure in the mine is less than at the top of the casing the vent is ineffective.

The casing shown in III (fig. 1) represents a casing passing through a coal bed in which the coal is in place. Two strings of casing are included. If the outer or first string (B) is set in cement mortar, this type of

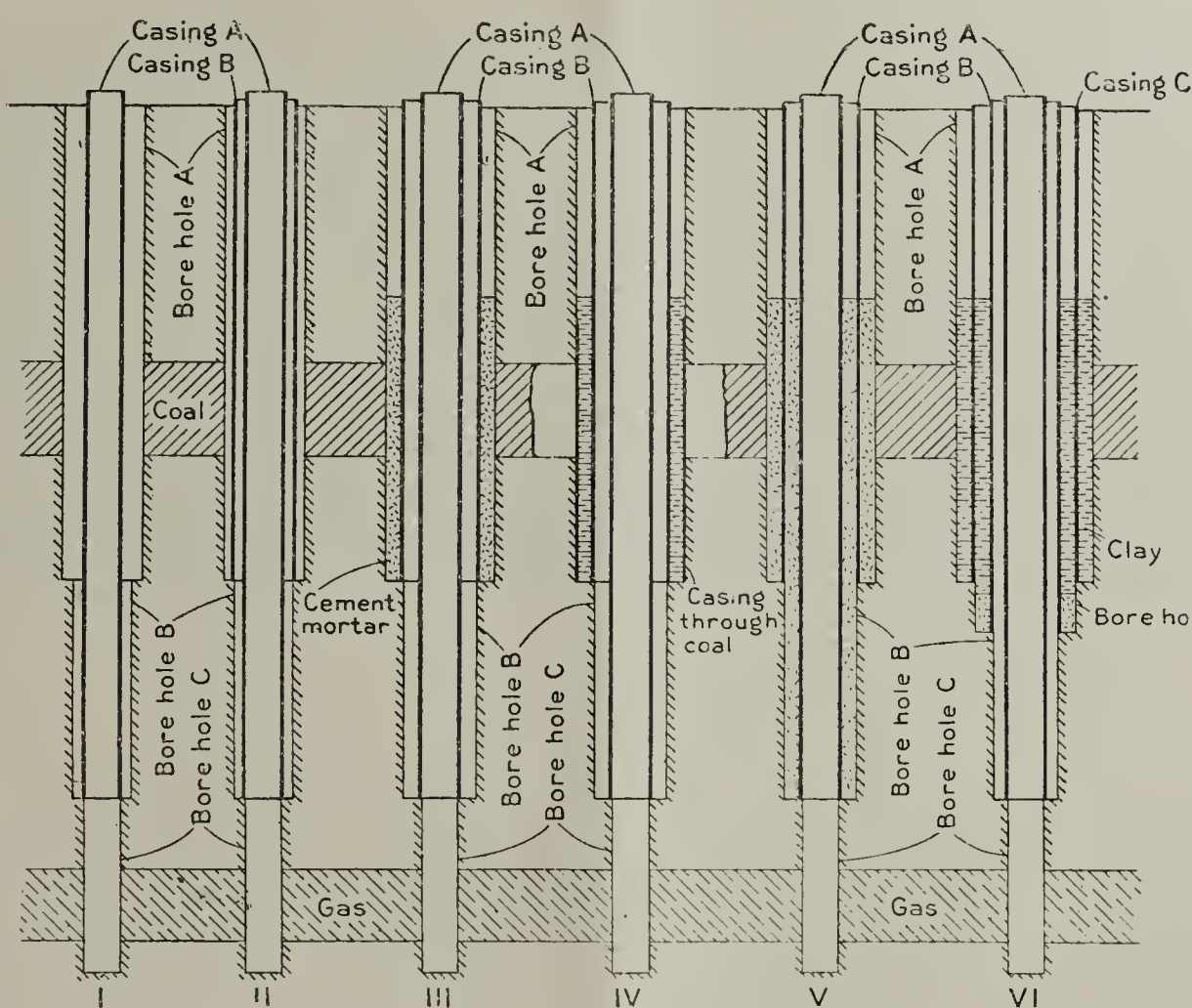


Fig. 1.

casing offers the following advantages and disadvantages:—

Advantages.—Retains wall from caving. Shuts out gas, oil and water from coal seam. Shuts out water from oil and gas sands. Allows vent to atmosphere. Retards corrosion. Prevents free intermingling and pollution of waters.

Disadvantages.—Cement holds the casing rigid, and as yielding by bending is impossible, the casing may be broken and the coal bed exposed to gas. All casing can not be recovered. Protection against corrosion incomplete if cement cracks.

If the outer or first string (B) be set in puddled clay, the advantages and disadvantages of this type of casing are as follows:

Advantages.—Retains wall from caving. Shuts out gas, oil and water from coal seam. Shuts out water from oil and gas sands. Allows vent to atmosphere. Retards corrosion. Prevents free intermingling and pollution of waters. Casing can be recovered. Packs against oil or gas leaks. Allows casing to yield against bending pressure.

Disadvantages.—Clay may not remain in position if coal is later removed.

The casing shown in IV (fig. 1) represents a casing passing through a mine opening. Two strings of casing are included. If the outer of the first string (B) is set in cement contained in a liner, this type of casing offers the following advantages and disadvantages:

Advantages.—Retains wall from caving. Shuts out gas, oil and water from coal mine. Shuts out water from oil and gas sands. Allows vent to atmosphere. Retards corrosion. Prevents free intermingling and pollution of waters.

Disadvantages.—Cement holds casing rigid, and as yielding by bending is impossible, the casing may be broken and the coal mine exposed to gas. Casing can not be recovered. Protection against corrosion incomplete if cement cracks.

If the outer or first string (B) be set in puddled clay contained in a liner, the advantages and disadvantages of this type of casing are as follows:

Advantages.—Retains wall from caving. Shuts out gas, oil and water from coal mine. Shuts out water from oil and gas sands. Allows vent to atmosphere. Retards corrosion. Allows casing to yield to bending pressure. Packs against gas or oil leaks. Casing may be recovered. Prevents free intermingling and pollution of waters.

Disadvantages.—Liner may be corroded and in a strong current of acid mine water the clay may be washed away and casing subjected to corrosion.

The casing shown in V (fig. 1) represents a protected casing, consisting of two strings, both of which are set in cement.

Advantages.—Retains wall from caving. Shuts out gas, oil and water from coal seam. Shuts out water from oil and gas sands. Double thickness of cement and iron to protect against corrosion. Prevents intermingling and pollution of waters.

Disadvantages.—Casing is held rigid, and as yielding by bending is impossible, the casing may be broken and the coal seam or mine exposed to gas. Vent to atmosphere is closed and gas may build up pressure and be forced into the coal seam through faults and crevices.

Casing can not be recovered. If laterally displaced, cement cracks and exposes casing to corrosion.

The casing shown in VI (fig. 1) represents a protected casing, consisting of three strings. The first (C) is set in clay, the second (B) is seated in cement and surrounded by clay.

Advantages.—Retains wall from caving. Shuts out gas, oil and water from coal seam. Shuts out water from oil and gas sands. Allows casing to yield to bending pressure and preserves a vent to atmosphere. Packs tight against gas leaks, even if distorted. All casing can be recovered. Prevents intermingling and pollution of waters. Double thickness of cement and iron to protect against corrosion.

Disadvantages.—Requires an extra large hole to a point below the coal and an extra string of large casing. This will add materially to the cost.

The type of casing shown in III and IV of figure 1 is the type recommended in the conference report.

The difference in diameters prescribed for boreholes and casings, depending on the location of the boreholes, provides a protective covering for the metallic casing of approximately 2 in. in thickness outside of couplings and about $2\frac{3}{4}$ in. for the body of the casing. The casing was required to be put 30 ft. below the bottom of the coal bed in order to ensure the rigid holding of the casing by firm ground. The cement was required to be run 30 ft. above the coal bed in order to get it above the effects of the usual caving of the roof and to exclude water in the event of a cave.

In order that there shall be no misunderstanding as to the manner in which the well operator complies with the law in the matter of a casing through a coal bed, it is required that an affidavit be made as to the type of such casing, the affidavit to be filed immediately upon the completion of the work of casing through the coal bed, while the matter is fresh in mind and within the possible knowledge of the coal operator.

One of the essential means of protection is the existence of a vent to the outer atmosphere from within the outer casing. The lack of such a vent is generally admitted to be the most serious cause of such damage as has heretofore occurred from the leakage of gas from active gas wells into mines. It does not seem to be sufficient to provide an opening that may be readily closed with a valve or plug. The ventilating opening should, therefore, be of such design that it cannot be readily closed. The practice of one company is to end the vent opening with a perforated pipe with a plugged end.

The opinion was general in the conference that a notice of intention to abandon a well should be filed with the chief well inspector, and that, so far as possible, the plugging of wells should be done under inspection.

It was considered that inspection should be prompt, or else that provision should be made to allow the well operator to continue his work without delay.

The conference considered that it was desirable that all old wells should be accurately located, but the impracticability of this was evident. In order that as many old wells as possible may be so located, section 4 of Article IV requires that any well drilled prior to the passage of the regulations shall, upon abandonment, be properly described and located.

(To be continued.)

PETROLEUM IN THE KRIMSKAYA DISTRICT.

THE Kudakinsk district, abandoned for the last nine years, has now again become very active. After two years' work in the district the results now obtained are such that the petroliferous nature of this district can be judged as being very valuable. Of the wells in exploitation the three following have to be registered as very promising : Nos. 3 and 4 of the Mediterranean-Maikop Company : No. 1 of the Levanovskoe Company.

which yields an oil of specific gravity of 0.900, and well No. 2, of the same firm, has a depth of 1,650 ft., with 6-in. pipes and produces an oil of a specific gravity of 0.886.

Altogether there are at present ten wells, and the work of drilling additional wells is being proceeded with very energetically. There are already determined four petroliferous strata with heavy and light oils, the



General View of the Levanovskoe Region near Krimskaya.

Well No. 3 has now a depth of 1,537 ft., with 8-in. pipes. At present it produces 330 poods of an oil of specific gravity of 0.876 ; No. 4, of a depth of 1,456 ft., with a pipe of 10½ in., spouts several times a day and daily produces 1,650 poods of an oil of specific gravity of 0.879 ; No. 1, of a depth of 1,552 ft., spouts once or twice a day and yields about 3,000 poods per day.

Besides the above wells there is the well No. 1 of the Mediterranean-Maikop Company, of a depth of 1,508 ft., with a pipe of 6 in., which is now being cleaned, and

upper ones of which are inundated with water from the old wells of the Kudako. This last property, originally granted by His Imperial Majesty to Mr. Evdokinoff, has now passed to the Peasants' Bank, which has not yet leased it to petroleum producers.

The first boring works at Kudako were started as far back as 1866. There are not less than sixty wells, some of which are now over-flowing with petroleum. There is no doubt as to the petrolific nature of the region, and that it has a very great future.

PETROLEUM IN THE KIRGIZ STEPPES.

THE *Neftiannoe Dielo* contains an extract from an Astrakhan paper, giving some interesting information upon the petroleum deposits in the Kirgiz Steppes.

Within fifty versts of Talovka (central point of the Steppe) three petroleum deposits have been discovered ; one within twenty-six versts to the north of Talovka on the shore of lake Idlbai-Sor, and on the Peninsula Aral of the same lake ; another within fifty-one versts of the south of the Peninsula Aral-Tiube of the lake Aral-Tiube-Sor, and the third on the shore of lake Agai-Sor.

As regards the commercial value of these petroleum deposits, as yet nothing definite can be said, but the district is now inundated by speculators, who have hastened to secure all plots more or less promising. On the Peninsula Aral thirty-six zaiavki have already been

made, each of which covers an area of 37½ dessiatines. On the lake Aral-Tiube-Sor there are thirty-eight zaiavki. All the zaiavki bear the same character : sand, salt and mud. In places there are mud volcanoes spouting gas, which burns with a yellow smoky flame.

Between the volcanoes there are small lakes, three to four sajenes in area, the water in which is continually boiling with gas breaking from the underground in a series of explosions. The nature of this gas is not yet defined, and it is consequently possible that the gas is not of a petroliferous nature at all. The mud is considered to possess great curative power, and the Kirgiz have from time immemorial visited the country in order to take mud baths. On the lake Aral-Tiube-Sor, where the mud is especially powerful, there are undoubted traces of petroleum, and the water in the lakes is covered with it. There are also strata of sulphur over a foot thick. The sulphur surface is not less than 200 dessiatines.

THE "SHELL" TRANSPORT AND TRADING COMPANY, LTD.

The New Share Issue.

IN a circular dated October 4th the secretary of the "Shell" Transport and Trading Company, Ltd., states that an issue of 367,964 ordinary shares of £1 each of the company at a premium has been ordered by the Board. Letters of allotment will be posted in due course. Holders of share warrants to bearer are informed that they are entitled, on depositing their share warrants or bankers' certificates, as mentioned below, at The Capital and Counties Bank, Ltd., 39, Threadneedle Street, London, E.C., to receive allotment letters of one new share for each complete ten shares. The new shares will in due course be registered, and may, after January 10th, 1914, be exchanged, if so desired, for bearer warrants, upon payment of the usual fee and stamp duty.

No allotment letter will be issued except in exchange for a duly signed application accompanied by a deposit of either the share warrants or bankers' certificates as above mentioned, and no payment will be accepted unless accompanied by a duly completed allotment letter.

Payment for the said shares must be made either in one payment of £3. 6s. per share on or before October 16th, 1913, or in three instalments, viz.: £1 per share on or before October 16th, 1913; £1. 5s. per share on or before November 17th, 1913; £1. 1s. per share on or before December 10th, 1913. No allotment will be made in respect of any holding of less than ten shares.

To enable the shares to rank *pari passu* with the existing ordinary shares and to participate in the interim dividend, payable on or about January 1st next, a sum of 1s. per share, representing such dividend, has been included in the issue price, and is on account of such dividend. In the case of any bearer shares, the warrants or bankers' certificates in respect of which shall not be deposited within the time aforesaid, the directors may at their absolute discretion accept such other evidence as they shall consider satisfactory that any person is a holder of any such bearer shares, and may allot new shares to him accordingly, but are in no case to be under any obligation so to do.

THE ASTRAKHAN PETROLEUM TRADE DURING JULY.

DURING July there was imported into Astrakhan from Baku and Grosny a total of 44,385,100 poods of petroleum products, including 29,082,600 poods of residuals, 7,411,000 poods of crude oil, 6,088,200 poods of kerosene, and 1,203,200 poods of other products. The exports from Astrakhan during the same month amounted to 31,890,400 poods of residuals, 7,483,900 poods of crude oil, 7,309,400 poods of kerosene, and 1,754,800 poods of other products, or a total of 48,438,500 poods.

From the beginning of the navigation on August 1st, the total exports from Astrakhan on the Volga amounted to 148,434,800 poods of crude oil and Mazout, and 35,175,700 poods of kerosene and other products.

NEW ENGLISH COMPANIES.

PACLELE (ROUMANIA) OIL COMPANY, LTD.

REGISTERED on September 30th, with a capital of £150,000, in £1 shares. Objects: To acquire any lands yielding petroleum or other oils, and to carry on the business of manufacturers and dealers in crude and refined oils and products thereof; also to enter into an agreement with Oilfield Contractors, Ltd. Minimum cash subscription, seven shares. Signatories: Geo. N. Cox, 22, Hornsey Park Road, Hornsey, N.; H. V. Bishop, 94, Westbury Avenue, Wood Green, N.; V. Lazarus, 33, Furnival Street, E.C.; W. Glennie, 4, Mitre Court, Temple, E.C.; H. J. Steward, 145, Fleet Street, E.C.; F. J. Cunningham, 9, Rolls Passage, E.C., and C. Thorp, Holloway, N. Qualification of directors (of whom there shall be not less than two or more than seven, and who are not yet appointed), 100 shares. Remuneration: £200 each per annum (chairman, £250). Registered office: 65, Bishopsgate, E.C.

CAPE-CAIRO OIL DEVELOPMENT COMPANY, LTD.

Registered on September 26th, by Mayo, Elder & Co., 10, Drapers' Gardens, E.C. Capital, £50,000, in £1 shares. Objects: To develop petroleum and oil-bearing lands, oil and other rights, and to carry on the business of oil, naphtha and petroleum refiners. Minimum cash subscription: 5,500 shares. Signatories: C. T. Browning, 87, Riversdale Road, Highbury Park, N.; C. T. Tivort, 87, Holmdene Avenue, Herne Hill, S.E.; J. R. Bickensall, 55, Myddelton Square, E.C.; E. L. Cozens, 2, Forest Villas, Walpole Road, South Woodford; F. Robinson, 66, Compton Road, Winchmore Hill, N.; C. F. Riley, 168, Sheringham Avenue, Manor Park, E., and F. A. Saxon, 58, Percy Road, North Finchley, N. First directors (who are to number not less than two or more than seven) are to be appointed by signatories. Qualification: £100. Remuneration: £100 per annum (chairman, £150).

THE PETROLEUM IMPORT TRADE OF FRANCE.

Statistics for July.

THE total quantities of petroleum products imported into France during July amounted to 35,507 tons, as against 53,289 tons imported during the corresponding month of 1912. The quantities of products imported from the various countries are shown in the following table:—

From	Crude Oil. Tons.	Kerosene. Tons.	Benzine. Tons.	Residuals and Heavy Oils. Tons.
United States ...	15,488	136	4,950	4,790
Russia ...	—	16	—	2,810
Roumania ...	1,148	1,112	847	—
Austria... ..	—	2,064	150	—
Other countries	—	488	38	1,170
Totals	16,636	3,816	5,985	8,770

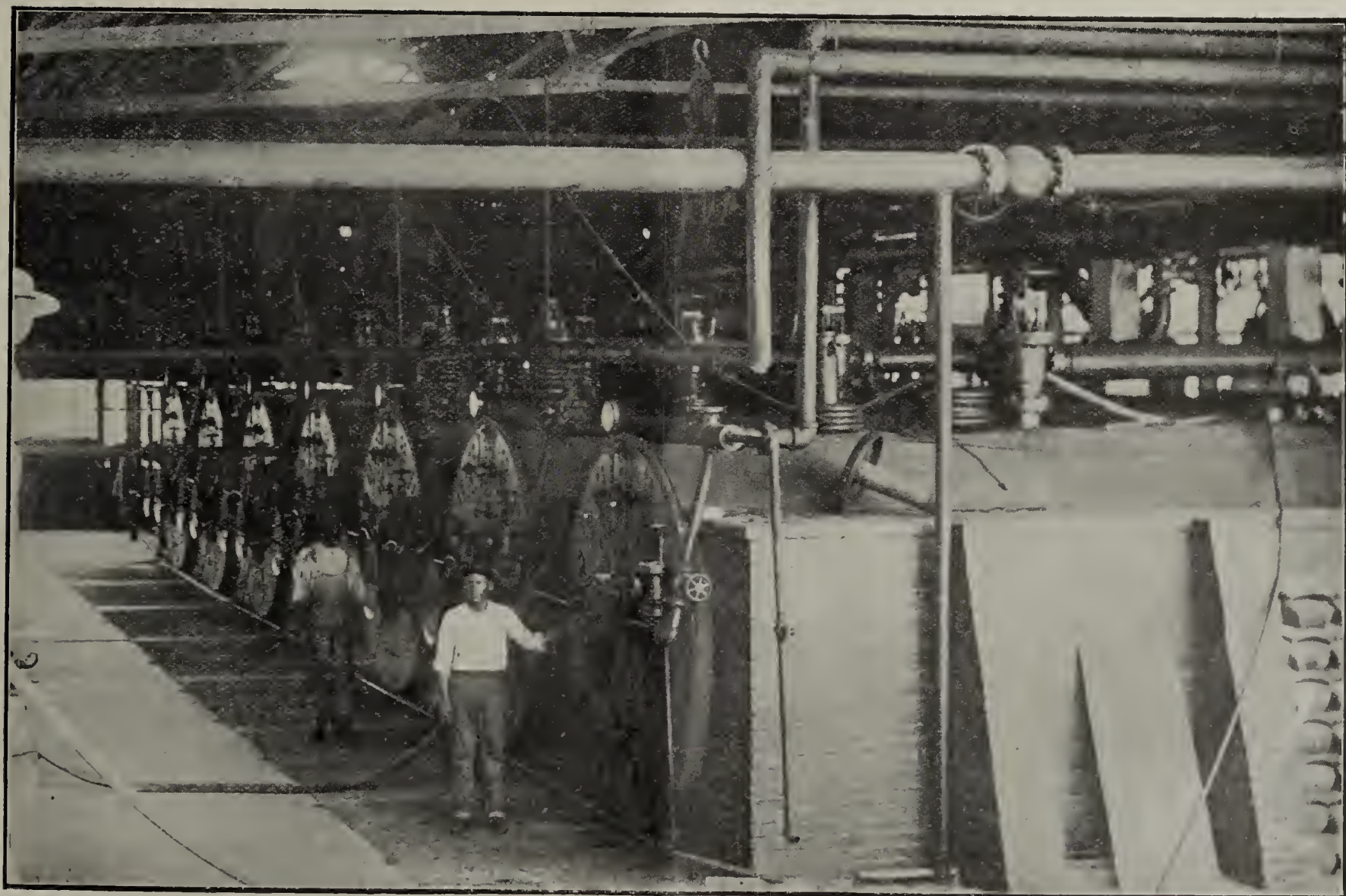
Of solid products there were imported during the month 225 tons of paraffin, 34 tons of ozokerite, 24 tons of vaseline, and 1,700 tons of bitumen and asphalt.

The Mexican Eagle Company's Minatitlan Refinery.

NEW AND EXCLUSIVE PHOTOGRAPHS.



A Corner of the Storage Plant.



Interior of the Boiler House, showing Boilers Fired by the Wallsend-Howden Liquid Fuel System.

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.
October 10th, 1913.

The prices of Refined Petroleum are unchanged as follows :—Roumanian, 8d. ; American, 8½d. ; Russian, 8¾d. ; Galician, 8¼d. ; American Water White, 9½d.

LUBRICATING OILS.

The official prices remain unaltered :—

- No. 1 Russian, £12. 2s. 6d.
- No. 2 Russian, £10. 17s. 6d.
- American pale, from £9. 12s. 6d.
- American dark, from £11. 2s. 6d.
- American filtered cylinder, from £13. 12s. 6d.

FUEL OIL

The current quotation is 70s. net per ton, in bulk, ex wharf.

* GREASE-MAKING OIL.

The market price is 80s. per ton, in bulk, ex wharf.

MOTOR SPIRIT

The London retail price is 1s. 9d. per gallon, and 1s. 7d. for second quality.

TURPENTINE.

Since the last report American Turpentine has had a rise, and is firm at : spot 30s. 4½d. ; November/December, 30s. 7½d. ; January/April, 31s. 3½d.

LIVERPOOL.

October 9th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8¾d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, September 11th.

The following are the current prices of the Standard Oil Company of New York :—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel "	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 l. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows :—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production :—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
" Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, October 9th.

Oklahoma crude is still quoted at \$1.03 per barrel. Refined, in cases, is quoted at 11.00 ; Standard White, 8.70 ; Credit balances, 2.50.

PHILADELPHIA, October 9th.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, October 7th.

The petroleum prices remain unchanged. The demand for kerosene begins to be lively, that for benzine decreasing. American and Galician, 8.85 ; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, October 7th.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 52½–53¼ copecs per pood spot. Mazout, 53–53½ copecs. Kerosene, 71–72 copecs.

ROUMANIA.

October 7th.

The export of petroleum is for the moment very restricted. The latest prices are :—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Bushtenari	Francs.
" " " " " "	Moreni	6.00–6.70
" " " " " "	Tzintea	4.50–5.00
" " " " " "	Policiori	4.25–4.75
" " " " " "	Bana	8.75–9.20
Paraffin	...	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	26.00–26.50
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	18.00–18.50
Residuals, f.o.b. Constanza	...	7.00–7.50
Gas Oil	...	8.00

AUSTRIA.

October 7th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 32.50 kronen at Oderberg. Benzine, 740/750, 26 kronen ; 750/760, 23 kronen, 760/770, 21 kronen, at Oderberg. Gas oil, 7.30 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, E.C., report under date October 9th as follows :—

The quarterly meeting of the tinplate trade was held at Birmingham to-day. The market was quiet with very little business doing and prices are unchanged as under :—

1c	18¾ × 14	124 sheets	110 lbs.	13/6	per box.
1c	20 × 10	225 "	156 "	19/3	"

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

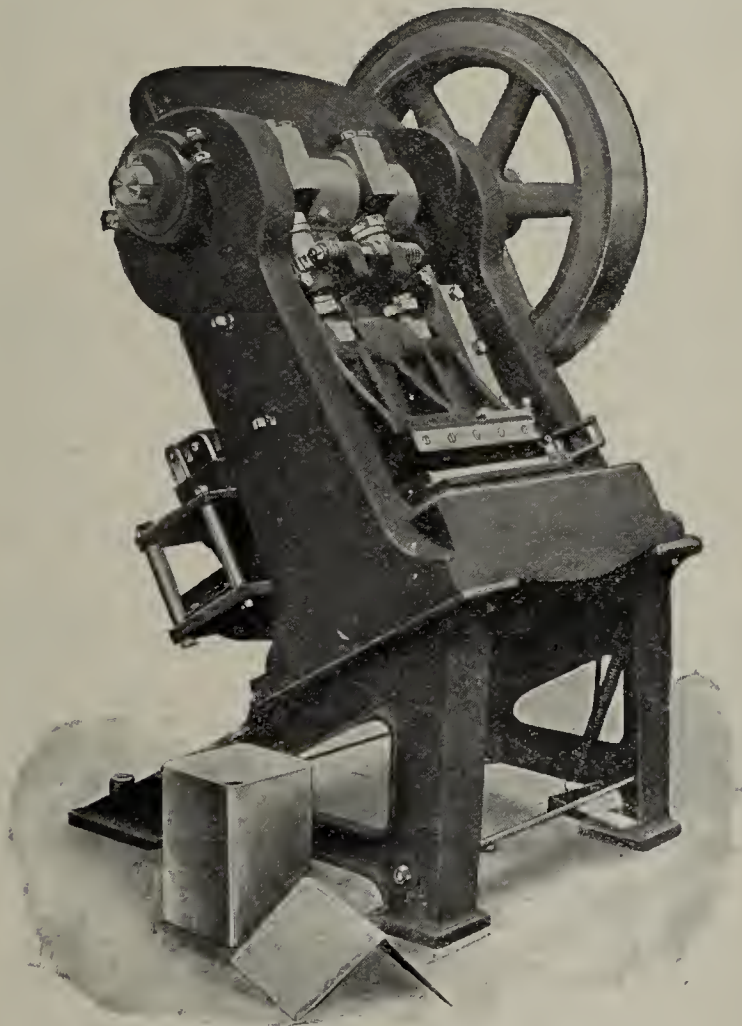
CONTRACTOR TO H.M. GOVERNMENT.

PETROLEUM IMPORTS INTO THE UNITED KINGDOM DURING SEPTEMBER.

THE SHIPMENTS INTO VARIOUS PORTS.

THE various shipments of petroleum products into the U.K. ports during September are given in the following table. The total imports for the month were 40,533,980 gallons, or 4,051,400 gallons more than in August.

PORT.	Illuminating.	Lubricating.	Residuals.	Gas Oil (Solar).	Benzine.	Fuel Oil.	Other Descriptions.
Aberdeen	1,600	680	—	—	—	—	—
Barrow	723,230	—	—	—	2,768,000	—	—
Belfast	944,530	9,080	—	—	—	—	—
Boston	—	600	—	—	—	—	—
Bristol	1,758,430	169,040	4,000	—	1,256,000	—	11,200
Cardiff	—	2,510	—	—	—	—	510
Dublin	1,421,310	120	—	—	—	—	—
Dundee	640	280	—	—	—	—	—
Glasgow	—	221,440	—	—	—	—	—
Gloucester	—	3,890	—	—	—	—	8,880
Goole	—	8,940	—	—	—	—	—
Grangemouth	13,760	9,870	—	—	—	—	—
Granton	—	—	—	—	372,000	—	—
Grimsby	—	2,370	—	—	—	—	—
Harwich	—	7,380	—	—	—	—	—
Hull	—	188,950	—	—	—	—	—
Leith	32,700	33,470	—	—	—	—	4,000
Liverpool	9,900	1,206,840	32,450	—	470,000	—	51,850
London	7,606,270	2,876,110	3,680	5,439,670	8,135,340	860,680	—
Manchester	170,330	1,806,700	—	27,050	—	—	11,020
Middlesbrough	—	3,700	—	—	—	—	—
Newcastle	—	32,010	—	—	—	—	—
Newport	—	820	—	—	—	—	—
Plymouth	—	800	—	—	—	—	—
Portsmouth	—	140	—	—	—	—	—
Southampton	—	1,030	—	—	—	—	—
Sunderland	1,748,000	—	—	52,590	—	—	—
Swansea	—	7,590	—	—	—	—	—
Totals	14,430,700	6,594,360	40,130	5,519,310	13,001,340	860,680	87,460



Body Panelling Press with Automatic Bending Device.

“RHODES”
Can-Making
Plants.

Brussels Exhibition, GRAND PRIX.

GUARANTEED MORE MODERN THAN
AMERICAN MAKE.

N.B.—We will send our plants ON APPROVAL to make Petroleum Cans, and undertake to beat any American-made plant on every point, viz., MORE MODERN Machinery, HIGHER QUALITY Machinery, MAXIMUM OUTPUT per Machine, LOWER PRICES.

INQUIRIES SOLICITED.

J. RHODES & SONS, Ltd.,
Grove Iron Works, Wakefield, Eng.

LONDON: Mansion House Chambers, E.C.

PARIS: Choureaux, 3, Rue du Souvenir, Asnieres, Seine.

Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

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FOR THE WEEK ENDED OCTOBER 6TH, 1913 (excluding any Imports which may not be disclosed)—

DATE. PORT AND IMPORTERS. DESCRIPTION. NO. OF GALS. PORT WHENCE.

Oct. LONDON—

30/9	Vacuum Oil Co. ...	Lub.	57,480	New York
30/9	Anglo-American Oil Co. ...	"	10,000	"
30/9	A. Brown & Co. ...	"	8,600	Philadel.
30/9	Lubricating & Fuel Oils Co. ...	"	3,120	"
30/9	"	"	81,920	"
1	J. Spurling ...	"	240	New York
1	Mercantile Lighterage Co. ...	"	4,000	"
1	Anglo-American Oil Co. ...	"	3,000	Philadel.
1	Snowdon, Sons & Co. ...	"	4,160	"
1	Trinidad Lake Asphalt Co. ...	Lub. Resid.	7,870	"
1	Anglo-American Oil Co. ...	Lub.	22,720	"
1	Port Authority ...	"	3,150	"
1	Trinidad Lake Asphalt Co. ...	Lub. Resid.	3,890	"
1	Anglo-Mexican Petroleum Products Co. ...	Fuel	870,130	P. Mexico
1	Bowring Petroleum Co. ...	Lamp	98,000	"
1	"	Benzine	405,000	"
1	E. G. Boize ...	Lub. Gr.	830	Hamburg
1	Port Authority ...	Lub.	4,810	"
2	J. W. Cook & Co. ...	"	13,760	Philadel.
2	"	M. Colza	4,400	"
2	Hanseatic Maritime Agency ...	Lub.	40	Bremen
2	Langley, Smith & Co. ...	"	5,410	New York
2	Asiatic Petroleum Co. ...	Spirit	5,000	Rotterdam
3	Bowring Petroleum Co. ...	Lub.	5,500	Philadel.
3	S. Capon ...	"	3,400	Fiume
4	Bowring Petroleum Co. ...	Lamp	602,000	P. Mexico
4	Mercantile Lighterage Co. ...	Lub.	6,000	Philadel.
4	J. W. Cook & Co. ...	"	6,000	New York
4	W. A. Rose & Co. ...	"	400	"
4	Port Authority ...	"	590	"
6	Bennett's Haulage, etc., Co. ...	"	2,500	Philadel.
6	Vacuum Oil Co. ...	"	7,300	"
6	Bowring Petroleum Co. ...	Lamp	1,050,000	P. Mexico
6	F. Chiesman & Co. ...	Lub.	2,600	New York
6	Scott's Wharf ...	"	2,500	"
6	J. Thompson ...	"	2,970	"
6	Valvoline Oil Co. ...	"	5,000	"
6	Ragosine & Co. ...	"	10,550	"
6	Port Authority ...	"	480	Marseilles
6	"	"	2,350	Hamburg
6	E. G. Boize ...	Lub. Oil and Gr.	280	"

LIVERPOOL—

30/9	Pickford's ...	Lub. Oil and Gr.	220	Hamburg
30/9	Bennett's Haulage, etc., Co. ...	Lub. Gr.	2,530	Philadel.
30/9	Vacuum Oil Co. ...	Lub.	15,720	New York
30/9	D. Owen & Sons ...	"	2,250	"
1	A. Hopps & Sons ...	Lamp	2,600	Baltimore
1	"	Lub.	10,360	"
1	Meade-King, Robinson & Co. ...	Lub. Gr.	2,600	"
1	Anglo-American Oil Co. ...	Gas	412,550	Philadel.
2	"	"	784,910	"
2	Burnyeat & Dalzell ...	Lub.	160	Bergen
2	Dee Oil Co. ...	"	2,600	Philadel.
3	Meade-King, Robinson & Co. ...	"	2,720	Baltimore
3	Price's Patent Candle Co. ...	"	2,600	"
3	Burnaby & Chantrell ...	Lub. Gr.	340	Hamburg
6	"	"	730	New York
6	Vacuum Oil Co. ...	Lub.	12,200	"
6	Worthington & Boler ...	"	6,000	"
6	G. B. Taylor ...	"	680	"
6	W. Crawford ...	"	440	"
6	F. Guest ...	"	4,800	"
6	Anglo-American Oil Co. ...	"	15,200	"
6	"	Lamp	1,283,530	Philadel.
6	"	Spirit	400	"

BRISTOL—

30/9	First Anglo-Russian Oil Co. ...	Lub. Gr.	250	Antwerp
30/9	E. Stock & Sons ...	Lub.	120	Hamburg
30/9	W. G. Clarke ...	"	240	Antwerp
30/9	O. Pragnell & Co. ...	"	240	"
2	First Anglo-Russian Oil Co. ...	"	260	Hamburg
2	Colthurst & Harding ...	"	240	Antwerp
3	H. Matthews & Co. ...	"	160	"
3	Pickford's ...	"	800	"
3	Ford & Canning ...	"	8,920	New York
3	C. Hill & Sons ...	"	13,480	"
6	Anglo-American Oil Co. ...	Lamp	1,212,000	"

CARDIFF—

3	Bristol Steam Navig. Co. ...	Lub.	80	Hamburg
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Oct. GLOUCESTER—

6 Bristol Steam Navig. Co. ... Lub. 240 Hamburg

GRIMSBY—

30/9 J. Sutcliffe & Son ... 370 Antwerp

HARWICH—

30/9 Great Eastern Railway ... 440 "

2 " " " 200 "

HULL—

30/9 T. Wilson, Sons & Co. ... 7,600 New York

2 W. Gilyott & Co. ... 11,600 "

2 British Petroleum Co. ... Lamp 1,234,000 Kustendje

2 Wilson's & N. E. Railway ... Lub. 1,320 Antwerp

2 " " " 720 Hamburg

6 " " " 120 Antwerp

6 " " " 560 Hamburg

6 " " " 40 Ghent

MANCHESTER—

30/9 Meade-King, Robinson & Co. M. Colza 5,200 Philadel.

30/9 " " Lub. 45,080 "

30/9 Diamond Lubricating Co. ... Lub. Gr. 2,680 New York

2 British Petroleum Co. ... Lamp 2,449,000 Kustendje

2 Wackerbarth, Holt & Co. ... Lub. Oil 1,460 Philadel.

3 Anglo-American Oil Co. ... Gas 550,070 "

6 Bramwell Fern & Co. ... Lub. 10,200 "

6 W. Hodgson & Co. ... " 1,090 Riga

6 Lamport & Holt ... " 1,120 New York

NEWCASTLE—

30/9 P. H. Matthiessen & Co. ... 1,180 Bergen

30/9 " " " 770 "

30/9 " " " 50 "

SUNDERLAND—

30/9 British Petroleum Co. ... Lamp 1,748,000 N. Orleans

30/9 " " Gas 52,590 Hamburg

SWANSEA—

30/9 Bristol Steam Navig. Co. ... Lub. Gr. 80 Antwerp

30/9 Burgess & Co. ... Lub. 30 Hamburg

ABERDEEN—

6 R. C. Reid & Co. ... 4,440 "

DUNDEE—

2 D. Alexander & Sons ... 120 "

GLASGOW—

30/9 Clyde Shipping Co. ... 1,870 Antwerp

6 Anchor Line ... 35,600 New York

6 Allan Bros. & Co. ... 45,150 Philadel.

GRANGEMOUTH—

30/9 Jas. Currie & Co. ... 2,400 Hamburg

GRANTON—

3 Asiatic Petroleum Co. ... Benzine 434,000 Rotterdam

LEITH—

30/9 G. Gibson & Co. ... Lub. 400 Antwerp

1 W. G. Yooll & Co. ... Lamp 4,360 Hamburg

3 Jas. Currie & Co. ... Lub. 4,000 "

6 " " " 5,400 "

BELFAST—

2 J. C. Pinkerton & Co. ... 800 ,

CORK—

6 P. Murphy & Co. ... 80 "

LIMERICK—

1 Limerick Steamship Co. ... Lamp 1,391,500 Sabine

15,186,810

Deduct—

BRISTOL—

20/8 British Petroleum Co. ... Lamp 6,570 Batoum

15,180,240

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Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.
Oil Well Supply Co. (Pittsburgh), Dashwood House,
London, E.C.
Thom, John M., Patricroft, near Manchester.
Trauzl & Co., Vienna.

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Boulton & Paul, Ltd., Norwich.

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Spencer, Chapman & Messel, Ltd., 36, Mark Lane, London, E.C.

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Deep Well Tool and Boring Co., Ltd., St. Albans.
Fraser & Chalmers, Ltd., 3, London Wall Buildings,
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Oil Well Supply Co. (Pittsburgh), Dashwood House,
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Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.
Homelight Oil Co., Ltd., 14, St. Mary Axe, E.C.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

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Kermode's Liquid Fuel System, 35, The Temple, Dale Street, Liverpool.

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Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.
Lubricating and Fuel Oils, Ltd., 101 Leadenhall Street, London, E.C.

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Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.
Bramwell, Fern & Co., London, Manchester and Liverpool.
Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.
Crew Levick Co., Irwell Chambers, W. Liverpool.
Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.
Meade, King, Robinson & Co., 22, Water Street, Liverpool, and Manchester.
The Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
Waverley Oil Work Co., Pittsburgh, Pa., U.S.A.
Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL BROKERS.

Benjamin & Gee, 31, St. Mary Axe, E.C.
Bramwell, Fern & Co., London, Manchester and Liverpool.
Lane & Macandrew, 26, Great St. Helens, E.C.

OIL EXPORTERS.

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Norris & Henty, 87, Queen Victoria Street, E.C.
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Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.
Crew Levick Co., Irwell Chambers, W. Liverpool.
Homelight Oil Co., Ltd., 14-20, St. Mary Axe, E.C.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
Waverley Oil Works, Pittsburgh, Pa., U.S.A.
Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL PIPELINES.

Russell, John, & Co., Ltd., Alma Tube Works Walsall.
Stewarts & Lloyds, Ltd., 41, Oswald Street Glasgow

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Marshall, Sons & Co., Ltd., Gainsborough.

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Willcox, W. H., & Co., 32 to 38, Southwark Street, S.E.

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Lee Howl & Co., Ltd., 110, Cannon Street, E.C.
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RUSSIAN OIL IMPORTERS.

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Lane & Macandrew, 26, Great St. Helens, E.C.
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Walker, C. W., Ltd., Donnington, near Newport, Salop.
Whessoe Foundry Co., Ltd., Darlington.

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Norton, Owen & Co., 4, Bishopsgate Street Within, E.C.
Prior, S. J. B., 5, Laurence Pountney Hill, E.C.

TRAM AND WAGON GREASE.

Goodall & Simpson, Ferry Road Oil Works, Cardiff.

TUBES (STEEL AND IRON).

Deutsche - Oesterreichische Mannesmannröhren Werke, Düsseldorf, Germany.
Russell, John, & Co., Ltd., Alma Tube Works, Walsall.
Spencer, John, Ltd., Globe Tube Works, Wednesbury.
Thom, John M., Patricroft, near Manchester.

WAXES.

Benjamin & Gee, 31, St. Mary Axe, E.C.

WIRE ROPES.

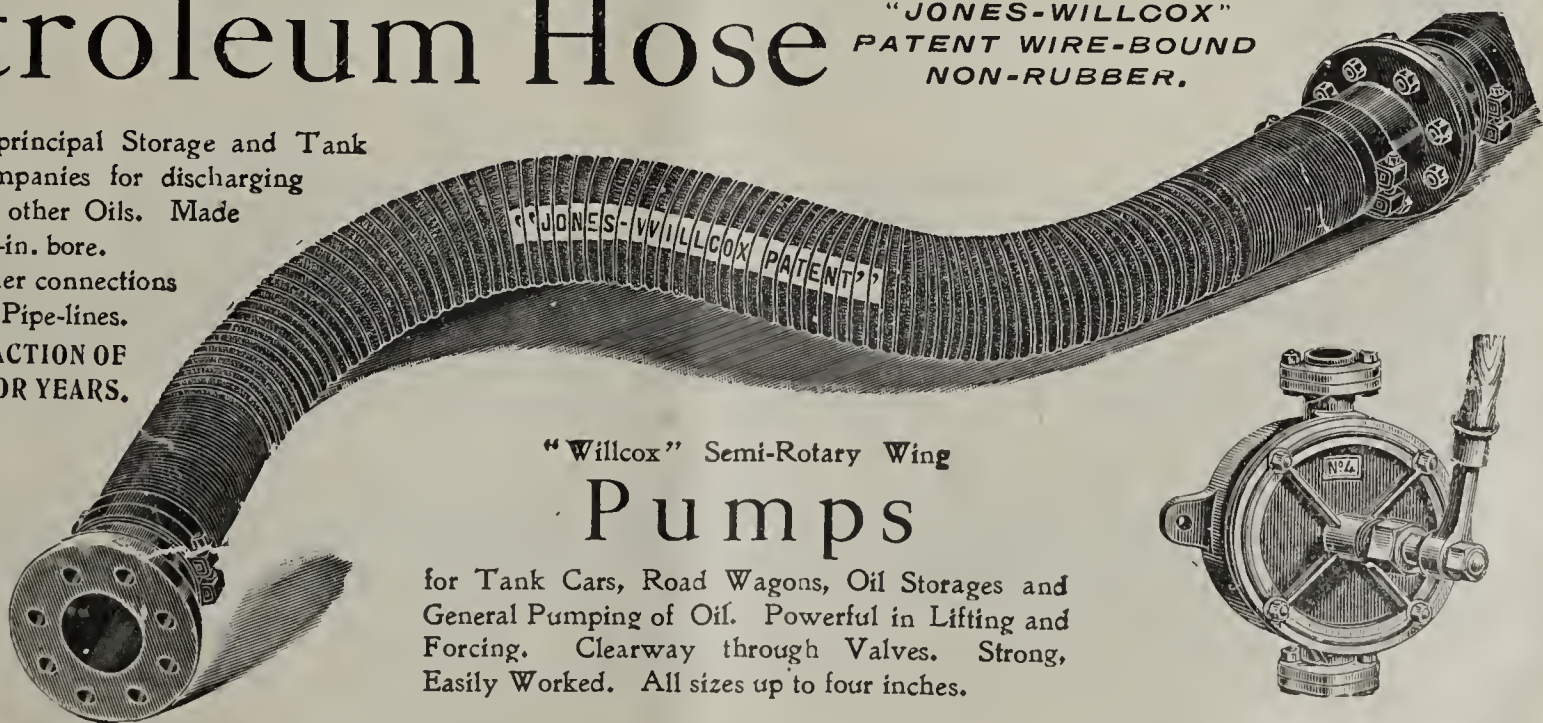
Glaholm & Robson, Ltd., Sunderland. London Office: Finsbury Court, Finsbury Pavement, London, E.C.
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The Petroleum Review.

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THE PETROLEUM REVIEW.

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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

The Petroleum Institute Laboratory.

WE make no apology for referring here to the exceptional facilities which are offered through the medium of the Petroleum Institute at 45, St. Mary Axe, E.C., for the testing of all kinds of petroleum products. Established nearly fifteen years ago by Dr. P. Dvorkovitz, the Institute has rendered a really valuable service to the petroleum industry at large, and to-day, as in the past, offers its unique facilities to all who either desire to have exhaustive analyses undertaken, or who may wish to be initiated into the hidden mysteries of the composition of petroleums. Only during the present week we find instances of where samples of crude oil have been dispatched both to Vienna and Berlin for the purposes of analysis. With such splendid facilities at home, such procedure is obviously unnecessary. We live in an age of "rush," and it seems to us that unless the claims of an institution are constantly pressed before the public gaze, its merits may easily be overlooked. The address of the Petroleum Institute is the same as that of the REVIEW—45, St. Mary Axe, E.C.

America's Petroleum Exports during August.

THE export movement of American petroleum products during August was quite up to the average, no less than 181,000,000 gallons being sent abroad during the month, as compared with 162,000,000 gallons for the period a year previously. Gains were registered in crude oil, illuminating oils and residuum, but in the exports of lubricating oils and naphthas there were substantial decreases, though these were more than counteracted by the increases in the foreign demand for other classes of products. Taking the total figures for the eight months of the present year, however, convincing proof is afforded of the steady expansion of America's petroleum trade. So far this year, America

has exported a total of 1,314,000,000 gallons of petroleum products as compared with 1,197,000,000 gallons sent abroad during the first eight months of last year. The value increase in this additional export trade is no less than \$14,000,000.

A New Motor Fuel.

THE search for new motor fuels continues apace. Inventors are ever busy, and one by one the results of the application of new scientific methods are announced with due regard to the importance which must of necessity attach to a really new motor fuel which may take its place alongside motor spirit and give as much satisfaction. The latest substitute announced is that known as "Economin," a product manufactured mainly from kerosene. There is no doubt that as time goes on kerosene will play a very important part in solving the present problem of motor fuel supply, and from the speeches made the other day at the Savoy Hotel, it seems that the new fuel is highly favoured by Professor Lewes and other authorities. Its commercial debut will therefore be followed with great interest.

Boring for Oil in Queensland.

THE Government of Queensland is steadily pursuing the policy of investigating the oil shale areas of the State. Two separate areas have been inspected, one extending throughout The Narrows, almost from Gladstone to Rockhampton, the other being a smaller isolated patch on Baffle Creek, between Bundaberg and Gladstone. The strata comprise mostly clay shales, with some bands of very fine grained sandstone; but, in view of the narrowness of the basins, it is not likely that the total thickness will exceed a few hundred feet. Certain of the shales are rich in carbonaceous matter, which, under destructive distillation yields liquid, oily and gaseous hydrocarbons. The location of the deposits on and near the sea coast is a favourable economic feature and will go some way to affect their comparatively low grade. The brine of Casuarina Island, in the Fitzroy delta, has been thought a promising indication; but an examination of the conditions under which it occurs points to the containing sands being still more recent than oil shales. The brine is of high specific gravity, and the manufacture of common salt therefrom must ultimately become an important industry in Central Queensland. Sir William Macgregor, the Governor of Queensland, in opening Parliament in August, spoke as follows: "Believing that mineral oil exists in abundance in the Maranoa district, my advisers dispatched all available data to the agent-general for Queensland, who, with characteristic promptitude, forwarded the same to the leading

authorities on the subject, and they, I am glad to inform you, are favourably impressed by the particulars supplied to them. Boring for mineral oil being an occupation quite distinct from that of boring for artesian water, the services of an expert employed in one of the great oil regions of the world are being sought with the view of ascertaining the extent and value of our oil resources, and the most effective means of developing them. If it be clearly proved that we have oil deposits in considerable and payable quantities, a new industry, of which the importance cannot be over-rated, will be established. When we consider the great and ever-increasing demand for mineral oil, the investigation is justified, whatever be the cost or the result."

LAUNCH OF THE WORLD'S FIRST OIL-DRIVEN BATTLESHIP.

ON Thursday, at the Portsmouth dockyards, the "Queen Elizabeth"—the world's first oil-driven battleship—was successfully launched by Lady Meux in the presence of over 50,000 people.

MISHAP TO THE S.S. "FRATERNAL."

THE world's greatest oil tanker the "San Fraternal" has met with a slight mishap. Last Monday, while coming alongside the wharf at Bahia Blanca, she came into collision with it. The wharf was considerably damaged, but the tanker itself only sustained slight damage.

IMPORTANT STRIKE OF OIL IN WEST CANADA.

AN important strike of oil has been made this week upon the property of the Calgary Petroleum Products Company some thirty miles south of Calgary. The oil is in considerable quantity, and was struck in a well 2,000 feet deep. Much importance is attached to the find, inasmuch as several developments are in progress in the district, which is now looked upon as a prolific oilfield.

THE OIL SHARE MARKET.

BUSINESS in oil shares on 'Change is steadily improving, and during the present week has shown some signs of briskness. The more successful company shares have been in good demand at firmer quotations, while there has been more enquiry for what may be termed shares of a very speculative nature. It is generally taken for granted that from now onward the oil share market will grow in strength and firmness.

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PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended October 11th was 114,000 poods.

SPIES PETROLEUM COMPANY, LTD.—The production for week ended October 12th, including 3,610 poods from ambars, was 280,075 poods, or about 4,517 tons. The total production for the year, from January 14th to October 12th, was 10,031,010 poods, or about 161,790 tons. The total production for the corresponding period last year was 12,791,610 poods, or about 206,316 tons. Price of crude oil at Baku is now 47½ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended October 11th was 19,373 poods (312 tons).

EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended October 12th was 103,600 poods, or 1,670 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended October 11th was 126,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended October 11th was 29,152 poods (470 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended October 11th was 7,900 poods, or 127 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended October 12th was 10,486 poods, or 169 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended October 11th, 107,820 poods or 1,739 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest production for week ended October 14th was 214,500 poods, or 3,460 tons. Corresponding period last year, 652 tons. Total production to date for this year, 78,030 tons, last year 22,805 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended October 12th was 80,500 poods, or 1,298 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended October 11th was 10,000 poods, or 161 tons.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended October 11th was 15,289 poods (246 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended October 11th was 1,460 poods (24 tons).

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OILFIELDS SHIPPING AGENTS,
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 (Off Cannon Street),
 LONDON, E.C.

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Rescues in the Mid-Atlantic by the s.s. "Narragansett."

THE ANGLO-AMERICAN OIL COMPANY'S HUGE TANKER SAVES TWENTY-NINE LIVES.

THE Anglo-American Oil Company's huge oil-tanker—the s.s. "Narragansett"—rendered memorable service in the mid-Atlantic during the latter part of last week when answering the Marconi call of the burning "Vulturo." She not only used a considerable portion of her lubricating oil cargo for the purpose of quieting the raging seas, but was successful in rescuing no less than twenty-nine passengers from the ill-fated vessel.

The pages of history in connection with the ocean transport of petroleum products contain not a few records of heroic deeds rendered by oil-tankers, but the

of passengers to be rescued, proceeded on her journey to the Thames, where she arrived on Thursday last.

The oil-tanker made quite a triumphal progress up the river, being welcomed below Tilbury by a tug having on board the band of the training ship "Cornwall." She came to her moorings amid a chorus of sirens, and the jetty at Purfleet was gay with bunting and thronged with a cheering crowd.

Captain Harwood acknowledged the demonstrations of welcome, and afterwards gave an account of the important part his ship had played in rescuing the



The Anglo-American Oil Company's Oil-Tanker "Narragansett."

achievement of the s.s. "Narragansett" must ever remain one of the most noteworthy of these.

The oil-tanker at the time was upon one of her usual trips from the States to this country, carrying a mixed cargo, and upon receipt of the wireless message asking for help, Captain Harwood made for the "Vulturo" with all possible speed. The seas were very heavy, and it was with difficulty that the tanker was able to get close to the ill-fated liner.

Without any delay Captain Harwood gave instructions for the pumps to be started, and in an incredibly short space of time lubricating oil was being poured on the sea under the stern of the "Vulturo." The effect was remarkable, so much so that the "Narragansett" was able to lower her boats with the greatest ease. After being absent for three-quarters of an hour the first lifeboat returned with twenty-one survivors, and the second ten minutes later, with eight survivors.

The "Narragansett," after rendering all the assistance possible, and being the means of enabling some hundreds

passengers of the "Vulturo." Speaking of the remarkable effect of pouring oil upon a troubled sea, the captain said that though only about fifty tons of lubricating oil were pumped overboard, the sea, which was very choppy before, became almost dead calm, the result being that the boats were expeditiously lowered and sent to the distressed ship. He was of the opinion that all liners ought to carry a certain quantity of oil for such purposes, for in a rough sea it would be impossible to launch any boats unless the sea were oiled.

On Thursday evening, as a slight recognition of the heroism displayed by Captain Harwood and his crew, Mr. Oswald Stoll invited them to be present at the Coliseum. As soon as Captain Harwood and his family were recognised on their appearance in the stage box, they were received with the utmost enthusiasm by the audience, the orchestra playing the "Star-spangled Banner." Later in the evening, at Madame Bernhardt's request, Captain Harwood and the crew of the "Narragansett" were presented to the famous actress.

MISCELLANEA.

THE NEW OIL SOURCE IN VIESSE, AT TEGERNESSE.

AMONG the papers read at the last International Congress of the Boring Engineers, held at Munich, on September 7th, was one by Prof. Oebbeke, on the new oil source at Viesse. The oil there has been known as far back as the fifteenth century, and during the last century many attempts have been made at oil production.

The first Bavarian Petroleum Company which had possession of the area bored eleven wells, in three of which oil was found. The yield from well No. 1, at a depth of 535 metres, amounted to 651 tons; from well No. 4, at a depth of 612 metres, 640 tons, and from well No. 7, at a depth of 637 metres, 1,868 tons. The oil is found at a depth of 500 to 600 metres, namely, between the limits of the flysch and the upper chalk. In well No. 3, at a depth of 676 metres, salt water was found, which after boring produced an intermittent spouter of a temperature of about 80° F. Accurate investigations have shown that there also exists a source of iodine, richer than any known up to the present.

THE STANDARD OIL COMPANY'S NEW TANKER.

THE tank steamship "Winamie" left Philadelphia recently on her initial trip for the Standard Oil Company of New Jersey, bound for India with a cargo of refined oil. The vessel was built this year at Stockton-on-Tees, for the Tank Storage and Carriage Company, of London, and has been chartered for the Standard Oil Company's service. She has a capacity of 8,300 tons, provided for by nine cargo tanks, and measures 412 ft. in length, with a beam of 53 ft. and a depth of 31 ft. She is equipped with quadruple-expansion engines of 2,800 h.p., and is capable of making 11½ knots per hour. The vessel can be run on either oil or coal as fuel.

ROUMANIAN PETROLEUM EXPORTS DURING AUGUST.

THE total quantity of petroleum products exported from Roumania during August amounted to 45,317 tons, as against 91,600 tons exported during the same period of 1912. The quantities of various products exported to various countries were as under:—

	Crude oil.	Benzine.	Kerosene.	Residuals, Gas Oil, etc.
	Tons.	Tons.	Tons.	Tons.
England ...	—	1,638	4,546	—
Austria ...	1,085	688	37	3,648
Germany ...	—	5,974	38	114
France ...	—	519	171	4,196
Egypt ...	—	—	4,195	—
Balkan Peninsula ...	—	131	6,949	632
Holland ...	—	90	5,057	—
Italy ...	—	25	—	3,020
Belgium ...	—	—	2,137	248
Totals ...	1,085	9,065	23,310	11,848

LAUNCH OF S.S. "EBURNA."

ON Tuesday last Messrs. Swan, Hunter & Wigham Richardson, Ltd., launched from their Wallsend yard the sixth ship that they have built in recent years for the Anglo-Saxon Petroleum Company, of London. The vessel is the s.s. "Eburna," a steel two-deck tank steamer, 392 ft. long, with a breadth of 52 ft. 9 in., and designed to carry over 7,000 tons on a moderate draught. The "Eburna" has been built on the Isherwood system of longitudinal framing. The engines, of triple-expansion type, and also the boilers, are being built by The Wallsend Slipway & Engineering Company, Ltd., and will be placed in the after-end of the vessel. The seamen and firemen will be accommodated in the fore-castle and the engineers in the after-end of the ship. In the bridge house amidships quarters will be provided for the captain and officers. The various holds for carrying oil are separated by transverse and longitudinal oil-tight bulkheads. Amidships is a pump room, and at each end of the range of oil holds is a cofferdam. Arrangements will be made for steaming out the oil tanks, and also for installing steam-heating coils in each oil hold to thin heavy oils that may be carried. The small steam and motor launches of the shipyard and engine works easily berthed the "Eburna" alongside the Wallsend shipyard directly after she had become water borne.

PETROLEUM STORES IN BAKU DISTRICT.

IN comparing the stores of petroleum products at Baku on September 1st of this year with the figures for the corresponding period of last year, there is a noticeable decrease in all products, especially in kerosene, as can be seen from the following table:—

	Stores on Sept. 1st, 1913. Poods.	Stores on Sept. 1st, 1913. Poods.
Kerosene ...	3,600,000	10,600,000
Solar oil ...	1,500,000	1,600,000
Lubricating oil ...	1,400,000	1,700,000
Residuals ...	11,000,000	17,000,000
Petroleum ...	22,300,000	23,400,000
Other products ...	800,000	900,000

As regards individual firms, the stores of kerosene on September 1st of this year were as follows:—

	Poods.
Asadulaeff ...	123,000
Bakunit ...	42,000
Bikhovski ...	135,000
Kagan ...	168,000
Caspian Society ...	374,000
Caspian Black Sea Company ...	581,000
Kulibekoff ...	17,000
Leff ...	102,000
Laites ...	63,000
Liassoff ...	104,000
Therkulieff ...	23,000
Nagieff ...	287,000
Nobel Bros. ...	233,000
Rilski ...	52,000
Stakheeff ...	220,000
Schibaieff ...	523,000
Mazout Company ...	248,000

THE OILFIELDS OF BURMA.

Their History and Development.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

Reprinted from
"Memoirs of the
Geological Survey
of India."
Volume XL, Part I.

(Continued from page 386.)

THE same plateau conditions are found here as at Yenangyaung, but the plateau has been so eaten into in places, especially the crestal and eastern portions, that scarcely any of it remains. It is covered with the plateau deposits identical with those of Yenangyaung, consisting of red earth of the usual type and variations, passing into plateau gravel which covers the country west of Magyizu; gravel is also found on the north bank of the Tat Chaung.

Gravel occurs on the foreshore between Palanyon and Nandawgon and south of the latter, and, although lying much lower than the plateau deposits of the hills, appears to resemble these very closely. Some of the pebbles are large, reaching a diameter of 4 to 5 in. In no case does this undisturbed gravel rest directly upon the recent river alluvium, but it is invariably upon Irrawadi sandstone. The river alluvium has redistributed and become mixed with the gravel and overlies it west of Nandawgon. The relation between the higher and lower lying gravels here is therefore a close one, and there is probably no great difference in age between these two terraces. Red earth occurs thickly on the eastern slopes as well as on the flat tops of the eastern parts of the hills around Nandawgon. North of the Sabwet Chaung, the low hills of Pegu beds around the mud volcanoes are capped by gravel, with well-rounded quartz pebbles and fossil wood, and containing iron-stained specimens of the living *Cyclophorus exaltatus*, Pfr.

Red earth thickens northwards, as the ground begins to sink, and north of the road between Kyibingan and Lingwa is so thick that it is difficult to obtain sections of the underlying tertiaries. On the surface of the low hills between Blocks 1S and 2S where the red earth has been removed, are boulders of calcareous sandstone or sandy limestone more or less *in situ*, carved and fretted by running water, similar to those described near Yedwet in the Magwe district. Southwards, red earth begins to become prominent in Blocks 15S and 16S and increases further southwards, but does not mask the structure quite so much as it does in the north; south of Block 18S its place is taken by gravel.

Attention has already been drawn to the large flats of river alluvium which must have been due to the flooding of low-lying ground by a rise in the river. Along the Yinma Chaung in Blocks 1N and 2N, and around Kyauktan in 1S, it is red or brown, owing its colour to denuded plateau deposits; around the mud volcanoes in Block 2S it is of a dirty slate, consisting largely of redistributed erupted mud. The weathering is of the "compound-buttress" type, similar to that of the soft Irrawadi sandstone. South of the mud volcanoes it is of a considerable thickness; layers of fragmentary pottery are found in it down to 3 ft. below the surface. Bricks are made from it.

The structure is that of an acute anticline slightly

overfolded towards the east. The beds on the west very often dip as steeply as those on the east, but the asymmetry of the anticline is due more to irregularities in shape than to the greater steepness of the eastern limb over the western. These irregularities rather suggest intermittency of the folding movement, and as they are of considerable interest and can be followed fairly easily in the field, the structure in each pair of blocks will be dealt with *seriatim* in conjunction with the sections. The flexure is sharp and deeply denuded; it is not unlike that of Yenangyat but has reached a more advanced stage.

In the four blocks north of the Sabwet Chaung, the fold is regular, sharp, and only slightly asymmetric. In the North of 2S the crest can be seen in low hills pitching northward at about 5° or 6°; the pitch increases to 9° or 10° at Leit Taung, however, and northward until the fold sinks beneath the covering of Red Earth. The direction of the fold is here 19°—20° W. of N. to 19°—20° E. of S., as shown by the strike of the vertical beds on the east, and of the Ferruginous Conglomerate on the west. East of the crest in the north of Block 2S, before the dips rise above 10°, the beds suddenly plunge steeply down and show evidences of slickenside. These steep, almost vertical beds strike at 5° W. of N. and indicate, in all probability, a fault passing through two series of gas pools in the alluvial plain to the south, and through the line of mud volcanoes further on; there are signs of it in Block 2N. This fault apparently passes obliquely across the crest from the bitumen and gas pools on the east to the mud volcanoes slightly to the west. East of it, where the section is taken, dips of 30°—84° rapidly come in and are succeeded by dips of 65°, 84°, 90° and 84° in a reversed direction. West of the crest the rise in dip is more gradual; the greatest measured was 78°, but the normal maximum appears to be 69°—70°, which is the dip at the Ferruginous Conglomerate. The arch therefore is here steep, regular, slightly overfolded to the east, and pitching distinctly towards the north. The thickness of Pegu exposed west of the crest is 4,125 ft.

There are indications that the Sabwet Chaung marks the position of a dip fault. The cliffs of Sabazu Daung and the Pegu exposures on the north bank show many irregularities in dip and the Ferruginous Conglomerate on the west appears to have been displaced. There are signs of strike faults also in these sections but they are unlikely to be of any importance.

There are two principal groups of gas pools in the alluvial plain north of the "mud volcanoes." The northern group consists of one large tarry hole of bituminous mud through which gas bubbles, having an active area 5 ft. across, and two small ones, in one of which the mud and tar are so viscous that a stick will stand upright in them; there is a decidedly aromatic odour about these. The southern group comprises two large pools, one pitchy, the other watery, through which gas bubbles (Pl. 43). A little further south is another small gas pool and two small mud vents, one 1½ ft. and the other 5 ft. high. One or two small slips or faults occur in the neighbourhood of the gas pools. Mud volcanoes existed here before the deposition of the alluvial flat in which they lie, and are perhaps as old as the fault on which they appear to occur.

(To be continued.)

THE PETROLEUM CRISIS IN RUSSIA.

Translated from the "*Torgovo-Promishlennaya Gazeta*."

THE literature on the petroleum crisis in Russia at the present time has become exceedingly extensive, and it will be difficult to give even a short review of it, but one fact common to all is worth noticing, viz., under the pressure of the question being a very important and urgent one, the general, as well as the special Press do not pay sufficient attention to the fact that the petroleum crisis does not apply particularly to Russia alone, but to the whole world. The petroleum business is everywhere undergoing an evolution very similar to the evolution of the industry at the moment of the introduction of the steam engine. It is no doubt a fact that for the last few years a radical change has been going on in the business of the utilisation of petroleum and its products. Kerosene, which has only recently been the product, for the sake of which the petroleum industry has been developed, has now reached the limits of its use. This is easily supported by the figures of the consumption of kerosene during the period 1910-12 in the principal European countries. There is practically no change in the consumption. In 1910 it amounted to 1,962,000 tons; in 1912 to 2,035,000 tons, while at the same time the consumption of benzine in the same countries increased from 494,000 tons in 1910 to 778,000 tons in 1912. Considering the fact that the yield of benzine from petroleum is very limited, it will not be any exaggeration to state that the world's petroleum industry is now facing an almost unsolvable question of the necessity of reorganising petroleum manufacture, in view of obtaining from petroleum a larger yield of benzine, at the same time diminishing the yield of kerosene, the increase of which is undesirable, owing to the absence of increased demand. How this situation affects the market can be seen from the fact that the price of motor benzine in Roumania is now 19 fcs. per 100 kilos., while in August, 1910, the same product was quoted at 8.50-9 fcs. per kilo. The increase during three years thus amounts to over 100 per cent., while the price of kerosene during the same time has remained stationary, or has rather decreased. Thus it follows that if the various petroleum producing countries considerably increased their production of petroleum in the near future, the prices of kerosene, owing to its over-production, must undergo a radical downfall.

Besides benzine, the world's markets have during the last few years considerably increased their demand

for liquid fuel (residuals). Thus, during the first six months of this year, England has imported about 38,000,000 gallons of residuals against 17,500,000 gallons imported during the corresponding period of the preceding year. Such an increase in the demand for fuel is, of course, intimately connected with the question of introducing fuel into the English navy, a lead which has been quickly followed by France, Italy and Austria, and it is therefore easy to foresee the time when the world's petroleum industry will not be able to satisfy all the demands for liquid fuel on the part of the fleets of the various states. Thus the world's petroleum industry, which until quite recently had, comparatively speaking, very little interest in benzine and liquid fuel, is now seriously engaged with these two products, as it cannot satisfy all the demands of the consumers, and a crisis is very near at hand.

It is only natural to think that the Russian petroleum industry will also, in the very near future, have to enter into this period of its existence, and therefore, even with an increased national production of petroleum, there is hardly any reason to hope for an essential decrease in the prices of petroleum, especially in view of the fact that the new Russian fleet will soon demand enormous quantities of liquid fuel. The petroleum resources of Russia are enormous, but they are far from being developed; however, even with a considerable development, the offer of petroleum products will still be far below the demand, and prices will keep high.

Thus the future for the consumers of petroleum products in Russia is not hopeful as regards low prices for petroleum, and besides the question of extending the area of petroleum production in Russia, there is also another question, which is urgent, viz., that of finding out such means of utilising petroleum which would allow consumers to maintain their industries, notwithstanding the high prices of petroleum. Among such measures there is, first of all, the extension of the use in Russia of inner-combustion engines. The reduction in prices of the latter, as regards their acquisition, etc., would considerably lighten the burdens of petroleum consumers. On the other side, the developments in Russia of coal production, and also of coal-petroleum brickettes, would, of course, supply the consumers with a fuel, if not equal to, almost as good as liquid fuel.

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American Petroleum Production during 1912.

*An Exhaustive
and Important
Bulletin.*

Dr. DAVID T. DAY'S OFFICIAL REPORT.

(Continued from page 360.)

Of the total production of 222,113,218 barrels of crude petroleum produced in the United States in 1912 about 85,000,000 barrels, or over one-third, was burned as fuel for power purposes. This includes deliveries by pipelines of 58,560,039 barrels of crude oil, crude oil consumed in the field, and some manufactured fuel oils.

Exact statistics of consumption of fuel oil are obtainable only for the quantity used by railroads, which amounted to 33,605,598 barrels in 1912, an increase over the 29,748,845 barrels used in 1911 of nearly 13 per cent. The number of miles of railroad operated by the use of oil declined from 30,039 miles to 28,451 miles. The total milcage, however, made by oil-burning engines increased—in other words, more trains were run on less track. In 1906 the number of miles made for each barrel of oil consumed was 3.93. This figure has declined almost continuously since then, till in 1912 only 3.61 miles per barrel was the result. It is not necessary to assume that this anomalous result is due to poorer quality of fuel oil or less careful use or to any other form of increased efficiency. The more probable reason is the introduction of heavier steel freight and passenger cars. A really accurate comparison in the future must consider the ton-mile.

The decrease in number of miles operated by oil is due to the return of a few railroads to coal. On one road this was due to the partial exhaustion of oilfields adjacent to the portion of the line which went back to coal. On another road, the change is attributed solely to the increased cost of fuel oil. The change back to coal will be still more evident in 1913, as increasing prices for oil offset its advantages as a fuel.

CONSUMPTION OF FUEL OIL BY THE RAILROADS OF THE UNITED STATES, 1906-1912.

	Length of line operated by the use of fuel. Miles.	Quantity of fuel oil consumed by railroads. Barrels.	Total mileage made by oil- burning engines. Miles.	Average number of miles per barrel of oil consumed. Miles.
1906 ..	..	15,577,677	..	..
1907 ..	13,573	18,849,803	74,079,726	3.93
1908 ..	15,474	16,870,882	64,279,509	3.81
1909 ..	17,676	19,905,335	72,918,118	3.66
1910 ..	22,709	23,817,346	89,107,883	3.74
1911 ..	30,039	29,748,845	109,680,976	3.69
1912 ..	28,451	33,605,598	121,393,228	3.61

The following are the names of the railroad companies which used fuel oil on their lines in 1912 :—

Pacific System (excluding Sonora Railway) of the Southern Pacific Company, in California, Arizona and New Mexico.

Galveston, Harrisburg and San Antonio Railway Company, in Texas.

Texas and New Orleans Railroad Company, in Texas.

Houston and Texas Central Railroad Company, in Texas.

Houston, East and West Texas Railway Company, in Texas.

Houston and Shreveport Railroad Company, in Louisiana.

Louisiana Western Railroad Company, in Louisiana.

Morgan's Louisiana and Texas Railroad and Steamship Company, in Louisiana.

Iberia and Vermillion Railroad Company, in Louisiana.

Oregon Short Line Railroad Company, in Idaho and Montana.

Oregon-Washington Railroad and Navigation Company, in Oregon and Washington.

St. Louis and San Francisco Railroad Company and branches, in Missouri, Kansas, Texas, Oklahoma and Arkansas.

St. Louis, San Francisco and Texas Railway (including Fort Worth and Rio Grande Railway), in Texas.

St. Louis, Brownsville and Mexico Railway, in Texas.

New Orleans, Texas and Mexico Company, in Louisiana and Texas.

Rock Island Lines (including Chicago, Rock Island and Gulf Railway in Texas), in Kansas, Oklahoma and Texas.

Atchison, Topeka and Santa Fé Railway System, in California, Nevada, Louisiana, Arizona, Texas, Kansas and Oklahoma.

Kansas City Southern Railway Company, in Texas and Louisiana, exclusively, and in Missouri, Kansas, Arkansas and Oklahoma, partly.

International and Great Northern Railway Company, in Texas.

San Pedro, Los Angeles and Salt Lake Railroad Company, in California, Nevada and Utah.

Trinity and Brazos Valley Railway Company, in Texas.

Galveston, Houston and Henderson Railroad Company in Texas.

San Antonio and Arkansas Pass Railway Company, in Texas.

Texas and Pacific Railway Company, in Texas and Louisiana.

Artesian Belt Railroad Company, in Texas.

Chicago and Northwestern Railway Company, in Nebraska, South Dakota and Wyoming.

Wyoming and Northwestern Railway, in Wyoming.

Northern Pacific Railway Company, in Oregon and Washington.

Great Northern Railway Company, in Washington.

Chicago, Milwaukee and Puget Sound Railway Company, in Washington and Idaho, and in Montana west of Deer Lodge to the Idaho State line.

Tonopah and Goldfield Railroad Company, in Nevada.

New York Central and Hudson River Railroad Company (including Old Forge and Fulton Chain on Old Forge and Fulton Chain Railway), in the Adirondacks, New York.

Northwestern Pacific Railroad Company, in California.
San Diego and Arizona Railway Company, in California.

San Diego and Southeastern Railway Company, in California.

Delaware and Hudson Company, in the Adirondaeks, New York.

Central of Georgia Railway Company, in Georgia on Tybee district.

Western Pacific Railway Company, in Nevada and California.

Las Vegas and Tonopah Railroad Company, in Nevada.

Bellingham and Northern Railway Company, in Washington.

Idaho and Washington Northern Railroad, in Idaho and Washington.

Washington, Idaho and Montana Railway Company, in Idaho.

El Paso and Southwestern Company, in New Mexico.

Spokane, Portland, and Seattle Railway Company, in Oregon and Washington.

Corvallis and Eastern Railroad Company, in Oregon.

Pacific Railway and Navigation Company, in Oregon.

Bullfrog Goldfield Railroad, in Nevada.

Tonopah and Tidewater Railroad, in California and Nevada.

Oil consumption in the production of power for industrial purposes increased so considerably that there was very little addition to the stock. It is estimated that 65,000,000 barrels were used in California last year for fuel by railroad and for industrial purposes. This use will undoubtedly spread to other parts of the United States when the popularity of internal-combustion engines burning heavy oils becomes established. The increased facility of transportation of oils from Mexico should be shown by an increase in the consumption of fuel oil in the East in 1914.

The West Coast has adopted oil almost exclusively for vessels of the coastwise trade, and this use may be expected to extend to the East Coast with the opening of the Panama Canal. The considerable use of oil for trans-Atlantic trade is improbable with the present supply.

The United States Navy has definitely abandoned the use of coal in future fighting-ship design. All new destroyers, submarines and battleships are designed for oil burning; there are now built or building 4 battleships, 41 destroyers, 30 submarines, 1 monitor, 3 tank ships, 1 collier, 1 submarine tender, and several tugs and small vessels burning oil exclusively. Also 8 battleships burn both coal and oil. One transport and 1 supply ship will be fitted to burn either oil or coal.

The navy is extending its oil facilities rapidly. The President has set aside about 100 square miles of oil-producing lands in the Elk Hills and Buena Vista fields of California as navy petroleum reserves. These reserves have an estimated capacity of 250,000,000 barrels. The Navy Department intends to hold this oil in the ground as an emergency supply and as a precaution against sudden decline of oil production in the United States. Tank storage is provided as follows:—Boston, Mass., 36,000 barrels; Melville, R. I., 36,000 barrels; Norfolk, Va., 36,000 barrels; Charleston, S. C., 36,000 barrels; Key West, Fla., 36,000 barrels; Guantanamo, Cuba, 223,000 barrels; and Pearl Harbour, Hawaii, 200,000 barrels. Tanks will also be established at New York, San Francisco, San Diego, Puget Sound, Guam and Cavite, and the storage facilities increased to keep pace with the number of oil-burning vessels commissioned. The navy also maintains a well-equipped fuel-oil testing plant at the Philadelphia Navy Yard, where evaporative tests with various burners and boilers are conducted, and where officers and enlisted men receive instruction.

During the year 1912 the navy used 21,000,000 gallons of fuel oil, and it is estimated that the consumption for the present year will be 30,000,000 gallons.

The navy tanker "Maumee" will have two 2,500-h.p. Diesel engines, and will also have two 300-h.p. dynamo Diesel engines. All submarines building are to be equipped with heavy oil engines.

The "Selandia," the "Eavestone," the "Christian X.," the "Rolandseak," all heavy oil-engined vessels, visited this country and aroused great interest in engineering circles. Other interesting foreign vessels of this type are the "Sembilam," the "Jutlandia," the "Juno," the "Savonia" and the "Fordonian."

The ship "Hagen," which has a displacement of 8,350 tons and is 400 ft. over all in length, recently made a trip in lower New York Bay. The ship is equipped with two 6-cylinder Diesel engines of two-eye type to develop 2,400 h.p. During the test the ship ran at about 11 knots.

PRODUCTION OF PETROLEUM AND INCREASE OR DECREASE BY STATES IN 1912 AS COMPARED WITH 1911, IN BARRELS.

State.	Production.				Percentage.	
	1911.	1912.	Increase.	Decrease.	Increase.	Decrease.
California	81,134,391	86,450,767	5,316,376	..	6.55	..
Colorado	226,926	206,052	..	20,874	..	9.20
Illinois	30,608,163	28,178,088	..	2,430,075	..	7.94
Indiana	1,279,501	850,597	..	428,904	..	33.52
Kansas	1,227,732	1,249,509	21,777	..	1.77	..
Kentucky	433,842	392,090	..	41,752	..	9.62
Louisiana	12,249,630	10,751,696	..	1,497,934	..	12.22
Michigan	7,995	..	..	..	..	..
Missouri	..	..	..	..	..	..
New York	939,727	877,527	..	62,200	..	6.61
Ohio	7,468,246	7,721,402	245,161	..	3.28	..
Oklahoma	48,208,575	43,471,466	..	4,737,109	..	9.8
Pennsylvania	7,490,744	7,036,591	..	454,253	..	6.06
Texas	8,422,408	10,975,979	2,553,571	..	30.31	..
Utah	186,695	1,572,306	1,385,611	..	742.00	..
Wyoming	..	..	..	..	..	..
West Virginia	9,513,564	11,584,586	2,071,022	..	21.76	..
Totals	209,398,139	211,318,654	1,920,517	..	.92	..

The production of Michigan is included in Ohio for 1912.

(To be continued.)

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„ Servian ...	6,700	New Steamer	6,200	„ Luciline ...	5,200
„ Carpathian	6,700	„ „	6,200	„ Le Coq ...	4,700
„ Roumanian	6,700	„ Terek ...	5,200	„ Rock Light...	4,100
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LATEST QUOTATIONS OF PETROLEUM SHARES.

ENGLISH COMPANIES.

This list is restricted to companies who have paid dividends or who are producers.

Company.	Share Capital.	Value of Shares.	Latest Prices.
	£	£1	$\frac{1}{2}-\frac{9}{16}$
Anglo-Maikop Corporation...	650,000		
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{13}{16}-\frac{15}{16}$
„ 5% Deb. Stock ...	600,000	£100	86-90
Assam Oil ...	310,000	£1	$\frac{5}{8}-\frac{3}{4}$
Baku Russian Petroleum Co.	750,000	10/-	5/0-5/6
Bibi-Eibat Oil Co. ...	250,000	10/-	6/9-7/3
European Oilfields ...	385,000	10/-	7/0-8/0
Lobitos Oilfields, Ltd. ...	400,000	£1	27/0-28/0
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{5}{8}-\frac{3}{4}$
Pacific Oilfields, Ltd. ...	250,000	£1	3/0-4/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	19/6-20/6
Russian Petroleum Co. ...		10/-	3/9-4/3
Schibaieff Petroleum, new Pref. (fully paid) s/s		—	$1\frac{3}{8}-1\frac{1}{2}$
„ „ new Ord. 690,000 s/s		(fully paid)	15/0-16/0
Shell Transport and Trading	7,000,000	£1	$4\frac{15}{16}-5$
„ „ „	3,000,000 Pref.	£10	$10\frac{1}{16}-10\frac{5}{16}$ xrs
Spies Petroleum Co. ...	750,000	10/-	21/9-22/9

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	749	752
Caspian Society (Issue 1910) ...	1,000	3,400	3,425
A. I. Mantascheff & Co. ...	250	770	775
Nobel Bros....	5,000	20,550	20,650
Nobel Bros. (Issue 1912) ...	250	1,052	1,056
Russian Naphtha Society ...	100	312	314
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	278	281
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	390	395

SCOTCH PRICES.

Supplied by Messrs. MACLEAN & HENDERSON, Stirling.

Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
British Australian Oil Co., Ltd. ...	300,000	£1	2/6
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	36/6
„ 6% Cum. Pref.	100,000	£10	£11 $\frac{1}{4}$
Burmah Oil, Ord. ...	1,100,000	£1	73/0
„ Pref. ...	250,000	£1	26/0
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
„ 5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	6/10 $\frac{1}{2}$
Mexican Eagle Oil, Ltd., Non. Cum. Pref. ...	\$8,500,000	\$10	45/0
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	35/9
„ Pref. (£1 paid) ...	100,000	£1	22/6
Premier Oil Ord. ...	2,300,000	£1	9/0
Pumpherstons Min. Oil Co., Ltd. Ord. (17/- paid) ..	110,500	17/-	$5\frac{11}{16}$
„ 6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	8/6
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	71/6
„ „ B ” Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).	
Dordtsche Petroleum Industrie My., Ord. ...	Aand	185
„ „ „ Pref. ...	„	186
Royal Dutch Petroleum Co. ...	„	636
Moeara Enim Petroleum Maatschappij ...	„	244
Perlak Petroleum Maatschappij ...	„	44
Sumatra Palembang Petroleum Maatschappij ...	„	234
Zuid Perlak Petroleum Maatschappij, Pref. ...	„	45
Tarakan Petroleum Maatschappij ...	„	118

From the PETROLEUM REVIEW of October 4th, 1913.

DEVELOPMENTS IN NEW ZEALAND.

The Taranaki Oil Wells Company has just received another enquiry from the Government railways for benzine of which the Government uses a great deal yearly. The company is forwarding the benzine this week. The department has also ordered a quantity of colza oil for lubricating purposes. This is being supplied. The refinery is running splendidly, the output being quite up to expectation. Very good progress was made at the company's bores last week. The ROTARY BORE, which is now down 420 ft., has made rapid progress IN THE HARDEST FORMATION yet experienced. The depth at the bore the previous week was only 170 ft. No. 1 bore at Bell Block is now down to a depth of 2,830 ft., with a better showing of gas, and No. 2 bore is down 2,365 ft., with a considerable pressure of gas and improved indications.

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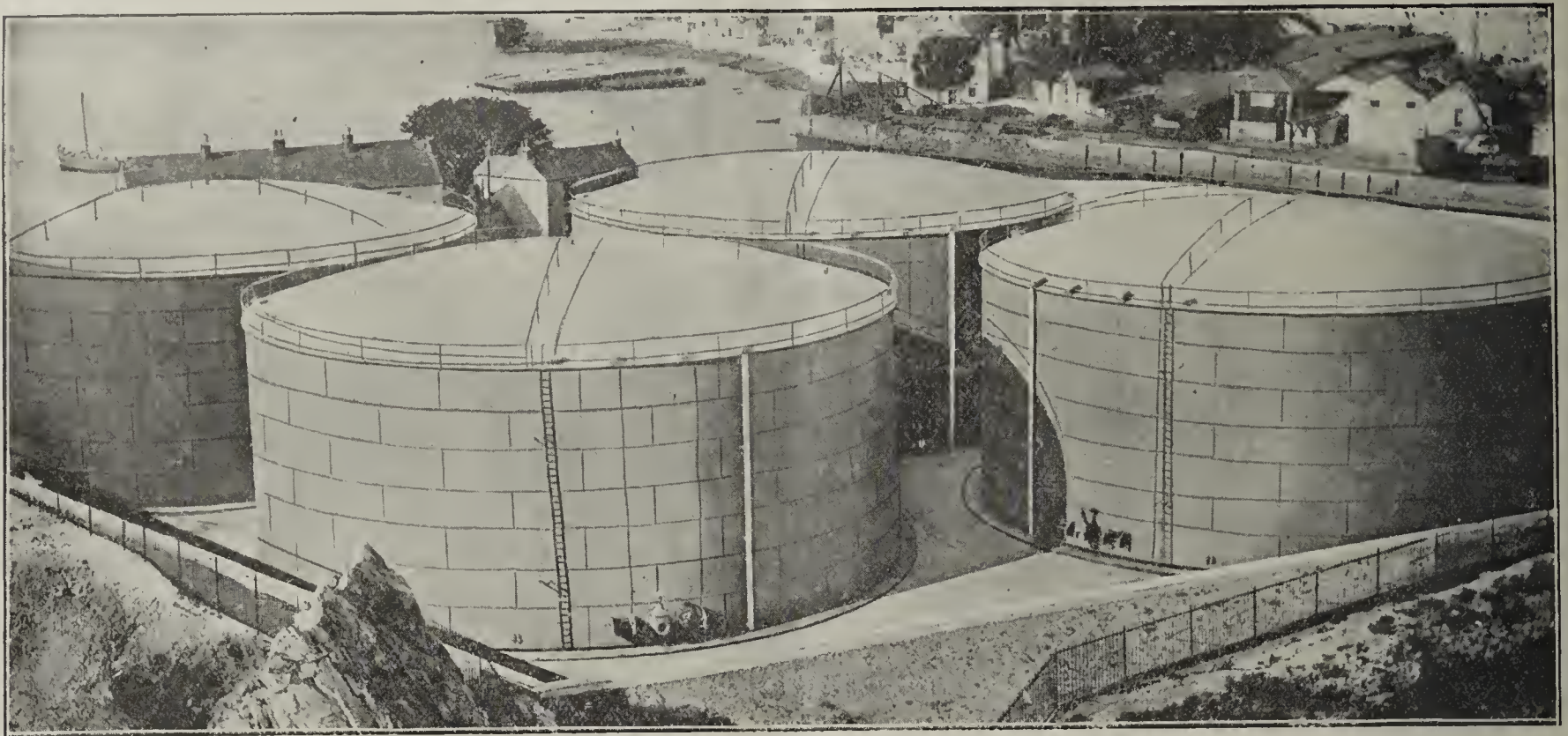
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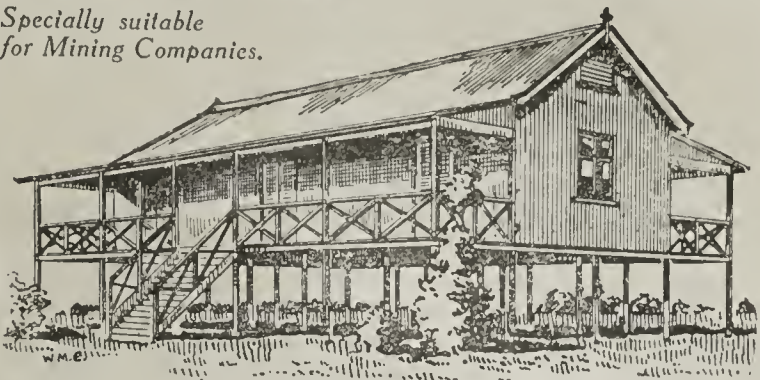
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CHIEF CONTENTS.

	PAGE
Editorial Notes	407
Production of English Companies in Russia	408
Rescues in the Mid-Atlantic by the s.s. "Narragansett"	409
Miscellanea	410
The Oilfields of Burma	411
The Petroleum Crisis in Russia	412
American Petroleum Production during 1912	413
Latest Quotations of Petroleum Shares	416
Is there Petroleum in France	419
Classified Imports into the United Kingdom	420
Notes from the Oilfields	421
New English Companies	422
Motor Spirit from Natural Gas by the Refrigeration Process...	423
The Drilling of Gas and Oil Wells	425
American Petroleum Exports	426
Oil Possibilities in South Australia	427
Imports of Petroleum Products	428
Home and Foreign Market Intelligence	429
The American Oil Market	430
The REVIEW Shipping List	431

— THE —

PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, OCTOBER 18TH, 1913.

IS THERE PETROLEUM IN FRANCE?

WITH the steadily increasing expansion in the consumption of the multifarious products of petroleum, all efforts directed to increase the number of petroleum producing fields are naturally of the greatest importance, for in no branch of industry does the law of decay apply so forcibly as in regard to petroleum production.

As the older of the world's producing territories are inclined to diminish their crude output, so must new regions be opened up in order to counteract the steady decline, and though for the past few years much has been done in this respect, it is remarkable that for the most part these new territories have been more of the nature of extensions of old producing fields rather than entirely new areas opened up owing to the foresight of serious-minded speculators.

Thus anyone carefully studying the progress which

has of late been made in regard to petroleum production must be impressed with the one fact, that while the crude oil output has enormously increased, the vast bulk of this has come from within the limits of regions which have been recognised as oil-producing districts for many years : in other words, with but few exceptions, no serious effort has been put forward to bring into the stage of commercial exploitation fields and countries, whose indications of oil wealth have been long recognised.

To-day, however, matters are shaping themselves differently, and there seems to be a determination on the part of many to seriously search for oil deposits in countries which have hitherto been without the pale of oil production. We have many who argue that England possesses in several localities all the indications that go to suggest a successful search for crude oil, and there are others that now positively assert that in the north of Scotland there exist large areas of oil shale which are more extensive and richer by far than those now so actively developed in the Midlothians. But while we in this country are now directing our attention to opening up what may become commercially productive oilfields at home, our neighbouring countries are likewise asking themselves the question of the probability of their own oil territory being oil-bearing.

The question in respect to France is receiving considerable attention, and our contemporary *Le Journal du Petrole*, in studying the subject, gives its answer in a positive sense. There is petroleum in France, especially in the Danphiné, where petroleum exudations have been observed on certain areas in the district of Romans, in proximity to the rich coal deposits. These petroleum traces, it points out, are of a nature which leave no doubt as to the assertions of many scientists of the existence of petroleum in France. Samples of the soil and oil extracted have been investigated by geologists, who emphatically conclude that petroleum exists in the district.

Mr. Marchena, the engineer, who has directed several petroleum exploitations in Roumania, has also examined the territory and formed the same conclusion, and in his report he asserts that at certain points the subdivision of the land is absolutely analogous to *vivi para bifurcinata*, which is found in Roumania, in the Prahova department, and in the strata of *rhomboidal congeries* which cover the Meotic, where the prolific Roumanian deposits are situated.

It was at the suggestion of this engineer that options were taken, and arrangements made for borings to be undertaken on the steps indicated by him. There also exists on the areas a certain product, which makes the existence of petroleum even more certain. There are mines of phosphates, which the peasants use as manure, besides which there are salty waters. There are also there legnite, mika, iron-pryite, onyx ; then again the plant *aneth*, very characteristic from this point of view, is there in abundance.

Previous works executed by American engineers also point to the same conclusion. Many other engineers who have investigated the district are perfectly convinced of the presence of petroleum, and in many places gas and exudations of petroleum are quite noticeable at the surface.

In *La Technologie du Petrole* Henri Nehburger and Henri Noalhat have studied the existence of petroleum in France, and the geological lines which they give in this work exactly coincide with the observations of other specialists. Dr. Diesel, the inventor of the Diesel motor, also pointed out, in June, 1912, the district of Romans as containing petroliferous deposits. The petroliferous area in France appears to be very extensive, and covers the department of Anoin, Sohme-et-Leroe, Savoie, Isère and Drome. In the first two departments there are already established exploitations of bitumen, which is, of course, also an indication of petroleum deposits.

ROUMANIAN PRODUCTION DURING AUGUST.

THE production of crude oil in the Roumanian oilfields during August amounted to 153,000 tons, as against 154,000 tons obtained during July, thus showing a shortage of 1,000 tons. The production of the principal firms was as under :—

					Tons.
Steana-Romana	...	...	...	...	30,755
Colombia	...	...	...	...	16,822
Astra-Romana	...	...	...	...	36,578
Romano-Americana	...	...	...	...	30,919
Concordia	...	...	...	...	6,902
Orion	...	...	...	...	3,896
Roumanian Consolidated	...	...	...	...	7,607
International	...	...	...	...	3,546
B. Margalier	...	...	...	...	1,007
Alpha	...	...	...	...	2,291
Aquila Franco-Romana	...	...	...	...	1,361
Nafta	...	...	...	...	2,390
Trayan Ronmanian Oil	...	...	...	...	1,700

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COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Oct. 6.	From Jan. 1.	Since Oct. 6.	From Jan. 1.	Since Oct. 6.	From Jan. 1.	Since Oct. 6.	From Jan. 1.	Since Oct. 6.	From Jan. 1.	Since Oct. 6.	From Jan. 1.	Since Oct. 6.	From Jan. 1.	Since Oct. 6.	From Jan. 1.
Belgium	—	—	14,340	584,083	—	—	—	—	—	20,820	—	120	—	4,910	14,340	620,933
Canada	—	—	—	7,040	2,600	48,850	—	—	—	—	—	—	—	—	2,600	55,890
Dutch Indies	—	—	—	—	—	—	—	—	867,000	33,568,450	—	299,497	—	—	867,000	33,867,947
Germany	13,010	198,170	10,870	2,759,660	—	600	—	159,710	—	—	—	400	—	4,610	23,880	3,123,150
Holland	—	—	210	8,930	—	—	—	—	—	6,293,340	—	—	—	590	210	6,302,860
Mexico	—	5,752,250	—	—	—	—	—	—	—	—	—	—	—	—	—	21,174,310
Roumania	—	16,539,037	—	—	—	—	—	—	1,062,590	1,528,800	—	12,830,670	—	—	—	29,698,407
Russia	—	9,844,56	2,300	11,396,000	—	389,370	—	—	1,150,000	2,981,830	—	9,027,540	—	—	—	33,519,280
U.S.A.	3,588,000	91,621,416	793,150	38,114,104	10,690	202,920	1,463,500	49,886,610	1,894,350	19,957,470	323,700	2,836,330	10,260	789,575	8,058,650	203,408,445
Other Countries	—	80	690	121,900	—	480	—	—	—	4,859,240	—	3,620	—	1,460	690	4,986,780
	3,571,010	123,955,533	821,560	52,991,717	13,290	642,220	1,468,500	52,258,910	2,761,350	81,099,300	323,700	24,998,177	10,260	801,145	8,969,670	356,758,002

NOTES FROM THE OILFIELDS.

AMERICAN.

The Electra Field.—This field is now the most productive in the Mississippi region, its daily yield being in the neighbourhood of 28,000 barrels.

Bradford's Deep Well.—The drilling of the deep test well at Bradford still continues. The latest report states that the hole is now 5,700 ft. deep, the formation being a black sandy lime.

In the Caddo Field.—The operations in the Caddo field have received an impetus owing to the success which has attended the bringing in of the Standard Oil Company's well No. 106. It is now producing close upon 1,800 barrels daily.

Philadelphian Exports.—The export trade in petroleum has been stimulated by the increased activities of the Inter-Ocean Oil Company, which has a refining plant at Thurlow, below Philadelphia, and is now bringing in heavy shipments of Mexican oil.

To Operate in the Caddo Field.—The John Scharbauer Oil Company is the name of a new corporation which has just been formed for the purpose of operating in the Caddo field of Louisiana. The company holds valuable leases in the Mooringsport and Oil City districts.

Oil Companies in Mexico.—According to a recently published return it appears that there are at present eighty-nine oil companies engaged in the Mexican petroleum industry. Of this number fifty-five are American, twenty-one Mexican, and thirteen British. Collectively these companies represent an investment of \$175,000,000.

RUSSIAN.

Bros. Kogan's Fields.—The fields of Bros. Kogan have been sold to a company at the price of 5,000,000 roubles.

Petro-Baku Company.—This company has now opened its activity in the Baku district.

Spouter at Dos-Sor.—On September 27th a powerful spouter broke out from well No. 7 on the fields of the Emba Company.

Grosny Pipeline.—The Grosny Town Council has leased to Messrs. I. Akhverdoff & Co. a stretch of town land for the purpose of erecting a pipeline.

Djakeli Company.—This petroleum company has concluded its 1912-13 operating year with a profit of 14,005 roubles, and is distributing a dividend of 40 roubles per share.

The Santo Petroleum Company.—The Central Asiatic Petroleum Company, Santo, has transferred its administration from Moscow to St. Petersburg. This company is financed by the Russian Asiatic Bank.

Apsheron Petroleum Company.—Under this name a company has been formed for the purpose of the production of petroleum in the Baku and other districts of the Caucasus; the foundation capital of the company is 1,000,000 roubles.

The Petroleum Crisis.—The Ministry of Trade and Industry has originated an inquiry into the question of prohibiting the export of petroleum abroad, and at the same time of equalising the freights of petroleum transports for inland and abroad.

Surakhani-Kurinsk Petroleum Company.—The Surakhani-Kurinsk Petroleum Company is increasing its capital, from 2,000,000 roubles to 5,100,000 roubles, by means of issuing 62,000 new shares of 50 roubles each.

A Petroleum Contract.—A contract for the supply of 1,000,000 poods of residuals to the Moscow-Nijni railway has been concluded at Moscow, by Messrs. Nobel Bros., at the price of 67½ copecs per pood, delivery at Nijni.

Prices at Moscow.—The prices of kerosene and Benzine at Moscow are ruling very high. Kerosene is quoted at 1 rouble 65 copecs to 1 rouble 70 copecs per pood; high quality at 2 roubles 35 copecs per pood. The price of benzine is from 3 roubles 30 copecs to 7 roubles per pood, according to quality.

Situation at Batoum.—The situation at Batoum is very quiet owing, firstly, to the rumours of the Government's project to equalise the export tariff with the inland tariff, and, secondly, to the rumours that the Americans intend to monopolise the petroleum trade in Turkey.

Nobel Bros.' Shares at Paris.—There is a rumour that a Paris financial group has acquired 15,000 shares of Messrs. Nobel Bros., at the price of 1,050 roubles per share, and intends to acquire a further 15,000 shares in order to keep control over the company's activity.

The Grosny Petrol Company has fixed a dividend for the operating year 1912-13 at 150 francs per privileged share, and 125 francs per ordinary share. The production of the company for the seven months of the year has amounted to 18,777,800 poods, showing an increase of 5,685,000 poods against the preceding year.

A Demand of the Astrakhan Exchange.—The Astrakhan Exchange has addressed the Ministry of Trade and Industry, with a demand for cancelling the reduced tariff on petroleum products from Baku to Batoum, and the reason given is, that in view of the great deficiency of petroleum products on the inner markets there is no necessity whatever to privilege the export abroad.

ROUMANIAN.

Colombia.—The well "Colombia" at Moreni continues to yield by eruptions 550 to 600 tons a day. Its total production has exceeded up to the beginning of October 3,080,000 tons.

Moreni-Ghirdoveni Company.—The balance-sheet for the year closed on March 31st, 1913, shows a net profit of 448,344 francs. The capital of this company amounts to 7,500,000 francs.

The Nafta Company.—This company is now increasing its capital of 3,000,000 francs by another 675,000 francs; in 6,750 shares of 100 francs each. During the last year the company has increased its production from 10,140 tons to 13,063 tons.

The Export Trade.—The exportation continues to be reduced owing to the absence of steamers, which have all been directed to other channels during the mobilisation period, and some time will have to pass before they will be free to return to Constanza.

Astra-Romana.—The production of this company for the last week has averaged 1,406 tons per day, of which 1,042 tons were obtained at Stavropoleos, 214 tons at Bana, 56 tons at Campina, 84 tons at Filipeshti, and the remainder at Baicoi and Glodeni.

Enterprise Ozinga.—The petroleum enterprise Ozinga, of Bordeli-Parshali, has been taken over by an English group, which is interested in Dr. Isinmann's enterprises. The actual exploitation will be considerably increased under the management of Mr. Ozinga.

The Orion.—The production of this company during September amounted to 5,570 tons. The daily production of the company is on a permanent increase, and is now about 250 tons a day, a large part of which comes from the well at Tzintea, which is in constant eruption.

Steaua-Romana.—The production of this company for the last week has averaged 1,101 tons per day, of which 482 tons were obtained at Campina, and 304 at Policiori. The rumours of the Steaua-Romana acquiring vast petroliferous territory in Galicia has proved to be without foundation.

Prices.—The prices of crude oil are maintained at a level of 740 francs for Bustenari crude, with corresponding changes for other types of oil, but in view of scarcity of crude, some refiners have paid even higher prices. The prices on the interior are unchanged with the exception of residuals, which are in great demand and command high prices.

Production of the Astra-Romana during September.—The production of the Astra-Romana during September amounted to a total of 38,136 tons, of which the most, i.e., 29,211 tons were obtained at Stavropoleos, 4,439 tons at Bana, 2,786 tons at Filipeshti, and 1,572 tons at Campina. The average for the month amounted to 1,271 tons per day. The total production of the company during the first nine months of the year has amounted to 332,163 tons, with an average of 1,216 tons a day.

Production.—The general production is registering an important increase and can be estimated at 5,000 to 7,000 tons a day. The increase is especially due to the Moreni field, where well No. 8 of the Romana-Americana Company, now has a production of 400 to 500 tons a day, and also the depth of the well of the Orion Company, at Tzintea, which is in eruption and yields from 100 to 150 tons a day. A new increase in the production is also expected at Chiciura and at Runcu, from the wells of the Steaua-Romana Company, and also at Filipeshti.

NEW ENGLISH COMPANIES.

KUBAN REFINING COMPANY, LTD.

REGISTERED on October 8th by Spyer & Sons, Austin Friars House, E.C. Capital, £200,000, in £1 shares. Objects: To carry on the business of dealers in and refiners of petroleum and other mineral oils, and to purchase any oil and petroleum-bearing lands; also to enter into an agreement with the Maikop Refineries, Ltd., and William Henry W. Lacey. Minimum cash subscription: £7. First directors (who are to number not less than two or more than seven) are George Tweedy, 7, Angel Court, E.C.; O. Thrisohaber, 15, Throgmorton Avenue, E.C.; C. F. N. Peake, 2, Threadneedle Street, E.C.; George M. Tischenko, and S. L. Schiffrin, both of 7/9, Newsky Prospect, St. Petersburg. Qualification: 100 shares. Remuneration: £200 each per annum, and 5 per cent. of the net profits (chairman, £250).

ANGLO-RUSSIAN ROTARY OIL BORING COMPANY, LTD.

Registered on October 8th by Swepstone, Stone, Barber & Ellis, 9, St. Helen's Place, E.C. Capital, £25,000 (23,750 shares of £1 each, and 25,000 shares of 1s. each). Objects: To carry out all kinds of operations in connection with the drilling or boring for oil. Signatories: W. H. Butterfield, 17, New Road, Crouch End, N.; H. Perry, 9, Park Grove Road, Leytonstone, Essex; and George C. Baldock, 70, Fairfoot Road, Bow, E. First directors (who are to number not less than two or more than five) are not yet appointed. Remuneration: A commission of 5 per cent. of the gross amount in any contract entered into by the company. Private company.

OLOREX, LTD.

Registered on October 10th by Walter B. Styer, 11 and 12, Fenchurch Street, E.C. Capital, £5,000, in £1 shares. Objects: To acquire the process for the purpose of refining oil, known as "Gasoline extraction process, Greenstreet patents"; and to buy and deal in machinery and fittings of all kinds relating to the working of oil and petroleum-bearing lands. Signatories: Edward T. Boxall, 9, Bishopsgate, E.C., and F. S. Keane, Woodside, Woodcote Avenue, Wallington. First directors (who are to number not less than two or more than five) are not yet appointed. Private company.

ANGLO-FRENCH PETROLEUM SYNDICATE, LTD.

Registered on October 10th by Thompsons, Quarrell & Jones, 3, East India Avenue, E.C. Capital, £40,000, in £200 shares. Objects: To acquire and develop oil-bearing lands, and to carry on the business of oil, naphtha and petroleum refiners, and to raise and treat oils, and to render the same merchantable and fit for use. Signatories: F. J. Allen, 3, East India Avenue, E.C., and J. Bolton, 126A, Friern Road, East Dulwich, S.E. First directors (who are to number not less than two or more than seven) are to be appointed by signatories. Remuneration: £50 per annum, each. Private company.

GOURIA PETROLEUM CORPORATION, LTD.

Registered on October 7th by Spyer & Sons, Austin Friars House, E.C. Capital, £350,000, in £1 shares. Objects: To purchase or otherwise acquire any oil and

petroleum-bearing lands, and to acquire claims or options for same, and to carry on the business of petroleum and oil refiners; also to enter into an agreement with Gustav Siebert. Minimum cash subscription, seven shares. Signatories: D. O. Robertson, G. R. Fowler, S. C. Eady, A. P. Howlett, F. H. Bennett, F. B. Turner and A. Nuidl. First directors (who are to number not less than two or more than nine) are to be appointed by signatories. Qualification: 100 shares. Remuneration: £200 each per annum and ten per cent. of the profits each year (chairman, £250).

DEVELOPMENTS IN THE OILFIELDS.

LATEST PROGRESS REPORTS.

Traian Roumanian Oil Company, Ltd.—Production of crude oil for week ended October 11th, 325 tons.

Maikop Midland Oilfields, Ltd.—Well No. 2, cleaning cork. Well No. 3, production stopped in order to deepen to light oil source. Well No. 5, depth, 1,585 ft.

Maikop Pipeline and Transport Company, Ltd.—Received for pumping for week ended October 11th: Ekaterinodar line, 76,404 poods (1,232 tons); Krimskaya line, 13,210 poods (213 tons).

Anglo-Maikop Corporation, Ltd.—Information received by telegram dated October 12th from the manager at Krimskaya: Well No. 1, depth, 1,308 ft.; fishing. Well No. 2, depth, 163 ft. Well No. 3, depth, 410 ft.

Anglo-Roumanian Petroleum Company, Ltd.—Production for week ended October 11th, 112 tons. Well No. 28 struck oil Saturday at 406 metres, flowed three times, producing about 300 tons. Now shut pending preparations. Expect to open again Tuesday.

Roumanian Consolidated Oilfields, Ltd.—Production for week ended October 11th, 1,201 tons. Moreni plots closed down twenty-four hours during the week owing to gas from new well. Telegram from Ploesti dated October 14th: "Chiciura well No. 3 has struck oil source with much gas, now testing."

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Motor Spirit from Natural Gas by the Refrigeration Process.

By Mr. R. O. WRANA, Chemist.

*Reprinted from -
the Californian -
"Oil Age." - -*

AMONG the most successful, and from a financial standpoint, the most lucrative industries known to chemical technology, are those which obtain their raw materials from waste.

There are innumerable flourishing industries which utilise material heretofore thrown away, or looked upon as serious hindrance to the process of manufacture from which derived. Such utilisation has a marked bearing upon the original manufacture as far as cost is concerned, as demonstrated in some of the new processes of the mining industry.

One of the most extensive and increasing industries of the United States—of the mineral world, in fact—is the production and refining of petroleum. It is, therefore, only natural that in both fields, production and refining, there is marked tendency shown to lower the cost by utilising waste in the most economic and efficient manner. Just as the producer of petroleum is abandoning the old way of steaming his oil in open tanks to free it from the water and inorganic matter, supplanting this old way by the more economic process of "topping," so he started in the last few years to derive some good from the gas which comes up from his wells. All the gas the oil producer needs for fuel is in certain instances only one-hundredth of the gas his wells are producing. To utilise this gas was the next step—to build pipelines, and convey the gas to places where it will find a ready market.

Gas, as produced by the wells, is to be classed as "wet" and "dry" gas. The dry gas, coming mainly from "gassers," or from the upper strata of oil-producing wells, or from low gravity oil, is practically ready for use as fuel and will not deposit any hydrocarbons in liquid form when conveyed at a distance. Such gas is only used as fuel, and this is the kind of gas that is generally used domestically in the different cities consuming natural gas.

Wet gas is derived from the lower strata of oil wells which produce light gravity oil; it is saturated with the light hydrocarbons, such as butane, pentane, hexane, and small quantities of heptane (in summer time). These hydrocarbons are, at the temperatures of the wells, in gaseous form, and when kept at 70 or 80 degrees will remain in gaseous form. But when the temperature drops to 30 or 40 degrees, as in winter time, they will liquify, causing thereby a hindrance to the passage of the gas. Such gas could not be conveyed to any distance without great annoyance. This can be substantiated by any manager of oil production who has to handle wet gas.

The liquifying of certain hydrocarbons in the gas led the oil producer to the extraction of these hydrocarbons and their utilisation for light oils, as naphtha, gasoline, etc. Although the wet gas has far more British thermal units than the dry gas, the stopping up of the gas lines makes it imperative to liquify such

products. In summer time, when less heat is used, the gas will be rich on account of the hydrocarbons being in suspension; and in winter, when more heat units are necessary, the same gas will be poorer in British thermal units on account of the liquified hydrocarbons not being in gaseous state.

The first process used in liquifying these hydrocarbons from wet gas was to subject them to 30, 120, 250 or more pounds compression and then expanding them. By the expansion the temperature of the compressed gas is greatly reduced, causing condensation of the liquifiable hydrocarbons. Any hydrocarbons which are liquified, but do not stay in liquid form at normal temperature and pressure, return to gaseous form. This is termed "wild gasoline." Such hydrocarbons, beginning with methane and classed up to isobutane, can be held as liquids only under pressure and in proper containers. Their value in daily life as producers of cold has been demonstrated and patents issued on their use; when expanded they can be put to the next extreme use, i.e., as fuel and lighting mediums. The only commercial product, gasoline, is obtained from the liquified pentane, hexane, heptane, etc.

This brings us to the question: Why all this compression and heat if cold is the efficient factor in liquifying these hydrocarbons? The answer to this question can only be by demonstration that cold alone will do what heretofore was accredited solely to compression.

The Petroleum Gas Reduction Company has demonstrated this contention to be correct, and further, proving it by the erection of a plant on the Petroleum Development Company's property at Olinda, California. In this new, and notwithstanding old, process, refrigeration eliminates compression altogether. No pressure, other than that of the wells, is needed for obtaining the required results.

The gas as it comes from the wells is passed through a series of condensers in succession. These condensers contain the ammonia expansion coils. The gas traveling through these condensers attains a certain temperature, and by proper regulation it is possible to maintain just exactly the temperature at which any given liquifiable hydrocarbon will condense, thereby making it possible to fractionate the mixture of hydrocarbons by successive refrigeration. This is a novel and without doubt the most practical feature of this new process of extracting gasoline from natural gas. It gives results which heretofore could only be obtained by fractional distillation of petroleum by the aid of heat.

In the process of compression this result could only be obtained by installing a series of compressors with different pressures, and, therefore, different temperatures of expansion, but an attempt of this kind often proves so expensive as to make it prohibitive and impractical.

Another advantageous feature of this new process is the absolute absence of moving machinery aside from the ammonia compressor. An ammonia compressor will run practically 360 out of 365 days when properly installed and will give a maximum efficiency for running time. This cannot be said of the compressors, since especially the last stage or high pressure compressor is put to a marked degree of strain.

The quality of the gasoline produced by the successive refrigeration process is far superior to the gasoline obtained by compression. The author has data wherein 25 per cent. loss is recorded on compressor-made gasoline impregnated with "wild" gasoline. The colour of refrigerated gasoline is water white, whereas compressor gasoline shows always a strain of yellow to dark yellow and usually requires "scrubbing" before being marketed.

On analysis the gas, when refined through this process, was absolutely free from moisture, and had nearly the composition of dry natural gas, with slight strains of butane. The gasoline, ranging from 75 to 85 degrees Beaume, showed on analysis to contain 30 per cent. of pentane, 30 per cent. hexane, traces of butane, and the rest hexane and higher hydrocarbons, less than 7 per cent. of hydrocarbons under 50 degrees Beaume. The loss in evaporation in a common gasoline container was less than 2 per cent. when 78 degrees gasoline was tested: 5 to 7 per cent. loss when gasoline of a density of 86 degrees Beaume was subjected to the test. This gasoline of 86 degrees Beaume contains a good proportion of petroleum ether, which makes it desirable for this branch of refining. The wells producing this wet gas of a density ranging 0.964 to 1.040 give an oil of a density between 30.9 to 35.4 degrees Beaume.

In order to determine the comparative qualities of different gasolines, tests were made of three grades; and in the following I will give comparative results of distillations made in cuts of 10 per cent. each of the gasoline as produced by refrigeration; common condensation and by distillation from the crude oil:

- (A) Gasoline by refrigeration 79.4 Be.
- (B) Gasoline condensed in pipe line 60.5 Be.
- (C) Gasoline from crude oil, average 60 Be.

	(A)	(B)	(C)
1. Pentane predominating ..	92.4	74.6	75.2
2. Pentane predominating ..	92.4	68.3	68.1
3. Pentane predominating ..	90.8	64.4	65.1
4. Hexane predominating ..	85.8	61.9	63.2
5. Hexane predominating ..	81.2	59.6	60.1
6. Hexane predominating ..	76.6	58.5	59.5
7. Commercial gasoline ..	69.2	57.0	56.0
8. Commercial gasoline ..	60.0	56.2	54.6
9 and 10. Commercial gasoline ..	55.0	51.6	50.7

These distillations are made in 10 per cent. cuts to obtain a comparison of the three different kinds of oil. The gasoline condensed in the pipeline was of a black colour from dirty pipes, and it was not known to the writer how long it stood exposed to the air. On a careful redistillation it did not show any pentane, the first fraction being totally composed of hexane (ethylisobutyl). The gasoline made from the average run of crude oil showed on fractional distillation ethyltrimethylmethane.

BAKU PETROLEUM PRODUCTION DURING AUGUST.

THE production of petroleum in the Baku fields during August on all areas amounted to 25,982,527 poods (including 671,384 poods of oil spouted at Romani), of which 6,561,879 poods were obtained at Bebe-Aibat and 19,420,648 poods on the old areas. The production of the principal firms during the month was as under:—

	Poods.
Nobel Bros.	...
Caspian and Black Sea Company ...	1,135,071
Mantascheff & Co.	1,507,784
Baku Petroleum Company	1,297,506
Caspian Society	909,780
Mirzoeff Bros.	822,600
Moscow-Caucasian Petroleum Company	931,000
Pitoeff & Co.	1,041,600
Runo	991,400
Zoubaloff	949,000
Russian Petroleum Society	1,044,300
Kavkaz Company	689,100
Nagieff	534,503
Asadulaeff	553,934
Born	529,025
Aramazd Company	558,200
Miloff & Tairoff	711,200
Teritkopoff	523,400
Lianozoff	518,661

The production at Surakhany amounted to 3,646,387 poods of black oil; 110,899 poods of gas and 47,300 poods of white oil. The production of the Surakhany firms was as under:—

	Poods.
Baku Petroleum Company	377,550
Russian Petroleum Society	58,200
Caspian and Black Sea Company ...	731,920
Nobel Bros.	2,222,637
Asadulaeff	3,000
Rilski Trustees	90,900
Mirzoeff Bros	27,400
Gaber & Lukke	93,780
Vanozoff	41,200

The production from hand-dug wells amounted to 1,360,000 poods.

Colombia.—Well No. 1 at Moreni is now giving 450 tons a day. Well No. 79 at Gropi yields 280 tons a day.

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The Drilling of Gas and Oil Wells. PROPOSED REGULATIONS FOR AMERICA.

By Messrs. O. P. HOOD and A. G. HEGGEM.

An Informative -
Bulletin by the -
Washington - - -
Bureau of - - -
Mines. - - -

(Concluded from page 398.)

Two principles are involved in the method of plugging—first, the passage of oil, gas, or water from one stratum to another must be prevented; second, any spaces or pockets that may contain gas under pressure and that might find sudden relief should be eliminated.

Fig. 2 shows six methods of plugging wells. From left to right in the figure the methods indicated increase in effectiveness.

The plugging shown in I (Fig. 2) is typical of that frequently used under existing laws.

Advantages.—Shuts out water from gas sand.

Disadvantages.—Allows the free intermingling of waters from different strata, causing the pollution of waters, springs, and wells. The hole cannot be maintained open to atmosphere. The top will cave and plug the hole above the coal bed. Allows pocket for storage of gas under pressure. Gas may escape into the hole and remain a menace to mine operations. This plug cannot be set against a heavy gas (or rock) pressure.

The type of plugging represented in II (Fig. 2) offers the following advantages and disadvantages:—

Advantages.—Shuts out water from coal beds. Shuts out gas from coal beds.

Disadvantages.—Allows pocket for storage of gas under pressure. Allows gas to enter formation below coal bed. Allows the free intermingling of waters from different strata. Cannot be used in case of heavy gas pressure.

The type of plugging shown in III (Fig. 2) represents a combination of the types shown in I and II.

Advantages.—Shuts out water from coal bed. Shuts out gas from coal bed. Shuts out water from gas sand.

Disadvantages.—Allows pocket for storage of gas under pressure. Allows the free intermingling of waters from different strata. Gas may pass lower plug and escape into the formation below the coal bed. This plug cannot be set against a heavy gas pressure.

The type of plugging shown in IV (Fig. 2) provides for a vent in that part of the plug that passes through the coal.

Advantages.—Shuts out water from coal bed. Shuts out gas from coal bed. Shuts out water from gas sand.

Disadvantages.—Allows pocket for storage of gas under pressure. Allows intermingling of waters from different strata. Allows intermingling of oil and gas from different strata. Vent pipe may easily be broken or corroded if cement is broken, especially through

inaccessible mine opening. Plugging against gas pressure difficult. Safety absolutely dependent on integrity of vent pipe.

The method of plugging shown in V (Fig. 2) comprises a composite clay and cement plug.

Advantages.—Allows no pocket for storage of gas under pressure. Shuts out gas, oil, and water from the coal bed. Prevents intermingling of gas and oil. Prevents intermingling and pollution of water.

Disadvantages.—Is expensive. Requires cleaning hole of oil where cement is placed, or makes likely poor cement in an oily hole.

The type of plugging shown in VI (Fig. 2) embodies filling solidly as recommended by the conference.

Advantages.—Allows no pocket for storage of gas under pressure. Shuts out gas, oil, and water from the coal bed. Prevents intermingling of gas and oil.

Is tight enough to resist heavy pressures.

Disadvantages.—Is expensive.

The tightness of the plugging shown in VI, Fig. 2, is dependent largely on the use of wooden plugs and clay. The wooden plugs are preferred to the cement and clay because of the uncertainty as to the quality of cement when put into oily holes. To prevent the possible accumulation of gas in pockets the entire space between wooden plugs is to be filled

in such a manner as to leave the smallest possible percentage of voids. These plugs and materials should be properly placed, and it is required that they be driven into place by drilling tools. A question was raised as to the necessity of filling entirely the holes between the wooden plugs prescribed, as there would be some localities where there would be great difficulty in obtaining proper material for filling. The requirement was, however, considered as fundamental for good work. The entire filling of the hole meets many of the requirements of others than the coal operator in that water-bearing measures as well as all gas and oil sands are thus protected. The avoidance of pockets filled with gas is very necessary, as it is a matter of record that a relatively small quantity of gas drawn suddenly from an old well into a certain mine produced a serious loss of life by a resulting fire.

The mining interests were quite willing to forgo more rigid requirements in other directions if they could feel assured that old holes were entirely and completely filled. It was pointed out that even if such plugging and filling should allow some gas to leak, the

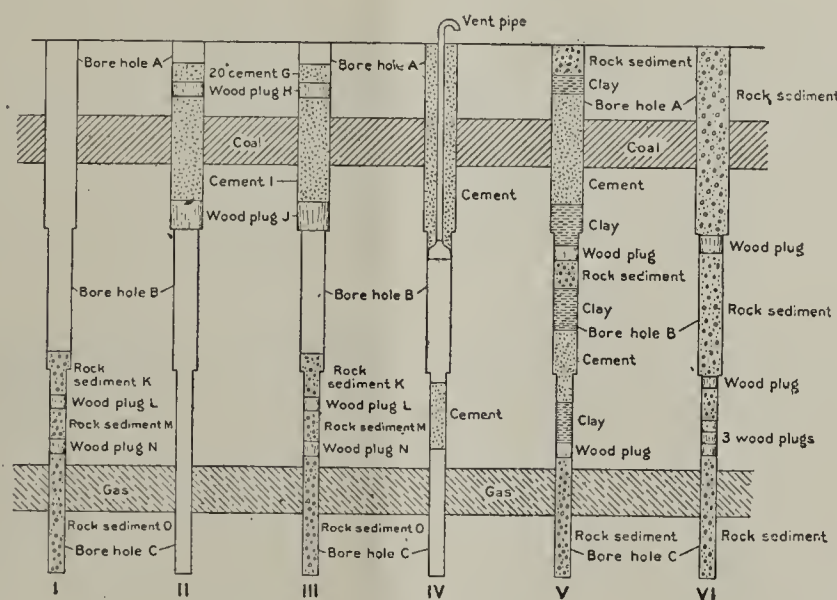


Fig. 2.

leakage would be at a relatively low rate, such that ventilation methods would suffice for it, whereas if there should be fear of an accumulated pocket of gas that might find sudden relief, the well would be considered a menace.

A well that is valueless for commercial purposes may produce gas slowly from deep-seated strata and at great pressure. If the borehole is open for 1,000 or 2,000 ft. between plugs, forming a large pocket, the gas may gradually accumulate at a pressure approximating the original rock pressure. If a 10-in. hole is open for 1,000 ft. it would contain at 60 atmospheres a volume of gas that would expand to 33,000 cubic ft. if suddenly released. Such a relief might be found through the strata into a mine, and, mixing with the air of the mine, the gas might form 600,000 cubic ft. of explosive mixture. If this should be ignited, a disastrous explosion might result; hence the great desirability of filling all cavities in which gas might accumulate.

The existence of either active or abandoned wells on a piece of property might be considered as an encumbrance on that property from the point of view of a coal operator. In order, therefore, that the true state of this encumbrance should be known at any time, not only is it necessary that there be a record of the location, and of the method of casing through coal measures, but also a complete record should be available of the abandonment and plugging of the well.

It was the general opinion that it would be useless to enact laws without a special officer to carry them into effect. The method of appointment of this officer, whether by the governor of a State or by a commission variously constituted and provided for the purpose, or whether the office should be one in connection with existing offices in the State, or should be separate and independent, were all matters of general discussion, and brought out some difference of opinion. Some of the State coal-mine inspectors, as indicated by letters received from them, were of the opinion that this work should be under the jurisdiction of the State department of mines. It was the general belief of the conference, however, that inspectors for the supervision of natural-gas and petroleum wells required a different preparation than that required for the inspectors of coal mines, and that the inspection of mines and of wells should not be performed by the same persons. That it was possible to organise such a well-inspection department under the State department of mines, or that such a department might be a part of the geological survey in some States, was recognised.

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AMERICAN PETROLEUM EXPORTS.

Statistics for August.

THE exports of American Petroleum products during August and their respective values are given in the following table:—

CRUDE OIL—			Gallons.	Values.
New York	...	...	4,135,160	\$365,028
New Orleans...	...	...	4,572,024	194,856
Sabine	...	...	162,098	15,389
Arizona	...	...	952,948	35,660
Southern California	...	...	350	21
Washington	...	...	4,537,324	94,378
Dakota	...	...	—	—
Michigan	...	...	980,951	32,562
Ohio	...	...	945,500	28,789
Totals	...	...	16,286,355	\$766,683
Totals for August, 1912...	...	...	13,805,548	469,195

RESIDUUM, GAS, OIL AND LIQUID FUEL, ETC.—				
New York	...	...	1,471,230	\$45,403
Philadelphia...	...	...	31,500	1,503
Galveston	...	...	52	36
New Orleans...	...	...	11,950	360
Sabine	...	...	11,350,608	369,199
San Francisco	...	...	17,523,728	296,814
Southern California	...	...	38,565	689
Buffalo	...	...	73,250	1,894
Dakota	...	...	94,133	3,066
Michigan	...	...	386,298	15,590
Ohio	...	...	589,129	22,092
Totals	...	...	31,570,443	\$756,673
Totals for August, 1912...	...	...	25,600,048	660,316

ILLUMINATING—				
New York	...	...	42,554,757	\$3,153,720
Philadelphia...	...	...	23,606,611	1,367,001
New Orleans...	...	...	13,041,141	589,185
Sabine	...	...	14,925,370	787,956
Arizona	...	...	17,575	3,650
San Francisco	...	...	6,287,735	295,293
Southern California	...	...	1,810	298
Washington	...	...	208,053	18,957
Buffalo	...	...	22,667	6,800
Dakota	...	...	128,203	8,352
Michigan	...	...	42,345	2,931
Ohio	...	...	957,436	45,478
Totals	...	...	101,793,703	\$6,279,621
Totals for August, 1912...	...	...	82,206,442	5,181,706

LUBRICATING AND PARAFFIN—				
Maryland	...	...	655,719	\$91,234
New York	...	...	11,957,306	1,710,905
Philadelphia...	...	...	2,314,753	333,036
Galveston	...	...	145,058	29,017
New Orleans	...	...	184,433	50,333
Sabine	...	...	21,640	4,332
Arizona	...	...	1,292	580
San Francisco	...	...	42,891	10,593
Southern California	...	...	3,994	364
Washington	...	...	17,693	4,436
Buffalo	...	...	372,452	42,967
Dakota	...	...	69,829	7,802
Michigan	...	...	143,500	14,536
Ohio	...	...	17,888	2,950
Totals	...	...	15,948,448	\$2,302,905
Totals for August, 1912...	...	...	18,855,159	2,614,768

NAPHTHAS, GASOLINE, ETC.—				
Maryland	...	...	1,833	\$294
New York	...	...	7,683,341	1,186,969
Philadelphia...	...	...	2,145,726	301,958
Galveston	...	...	8,250	1,238
New Orleans...	...	...	385,765	51,933
Sabine	...	...	2,080,424	238,310
Arizona	...	...	2,025	500
San Francisco	...	...	58,337	8,359
Southern California	...	...	4,615	442
Washington	...	...	665,140	106,085
Buffalo	...	...	1,121,578	129,751
Dakota	...	...	677,015	94,319
Michigan	...	...	175,801	25,043
Ohio	...	...	1,018,980	139,795
Totals	...	...	16,028,830	\$2,284,996
Totals for August, 1912...	...	...	21,386,714	2,522,493

OIL POSSIBILITIES IN SOUTH AUSTRALIA.

IT has been repeatedly rumoured that there are indications of the occurrence of petroleum deposits in Kangaroo Island and the western coast of Eyre's Peninsula, in South Australia. These rumours have been based on the discovery from time to time of lumps of asphalt on the beaches in this region. The persistence of these rumours, and the recent developments in the uses of petroleum, have aroused considerable public interest in South Australia, and the Government geologist has recently visited the region for the purpose of making a rapid geological examination of those portions of it where discoveries of asphalt have been made.

The results of his investigation have been published as "Bulletin No. 2, 1913, Geological Survey, South Australia." He reports that in both districts there is a fundamental and folded complex of ancient rocks, over a large part of which there is spread a thin mantle of sediments, probably of recent age. The sediments lie in approximately horizontal beds, and consist chiefly of loosely aggregated calcareous sand, with some marly beds. An examination of numerous sections showed that there are no continuous argillaceous beds.

No trace of any rock impregnated with bitumen was found, and in no case has any of the reported discoveries of veins of asphalt *in situ* been confirmed by a competent authority. "Fœtid limestones" occur on the shore of Murray's Lagoon, but their odour was found to be due to sulphuretted hydrogen, and they

contained no trace of petroleum or petroleum derivatives. Moreover, the geological structure is not favourable for the accumulation of oil.

The Government geologist is of opinion that the substance coorongite (elaterite or mineral caoutchouc), which has been found in appreciable quantities on the western shore of Murray's Lagoon, in Kangaroo Island, is indigenous to the island, but that it is not a petroleum product. Similar material is found on the mainland at localities where prospecting operations for oil have had negative results.

As regards the blocks of black bitumen or asphalt found on the beaches, there appears to be no doubt that these are petroleum products; but with reference to their place of origin the Government geologist agrees with his predecessor that they are erratics, and that they have been drifted on to the beaches by ocean currents from some unknown source. Such occurrences have been reported from other parts of the south coast, and one has been found as far west as Bunbury, in Western Australia. On some portions of the coast blocks of "kerosene shale" have been found, identical in appearance with that occurring in New South Wales. It is supposed that these also have been drifted on to the coast by ocean currents, after having been dropped in the sea by passing steamers.

The Government geologist concludes that the various discoveries hitherto made are of no economic significance, and that they give no indication of the existence of oil-bearing deposits on either Kangaroo Island or Eyre's Peninsula.

Galizische-Karpathen Petroleum Actien Gesellschaft

(Late BERGHEIM & MacGARVEY.)

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Telephone: BANK 5854.

Telegrams: "OMACERN, LONDON."

Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

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FOR THE WEEK ENDED OCTOBER 13TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
Oct. LONDON—				
7	Anglo-American Oil Co.	Lub.	31,080	New York
7	J. Harrison	Lub. Gr.	310	Antwerp
7	Port Authority	Lub.	1,000	Hamburg
7	T. Harris & Co.		2,800	Stettin
8	J. Thompson		740	Riga
8	Grindley & Co.		8,000	New York
8	G. & H. Green	Lub. Gr.	4,930	"
8	Mercantile Lighterage Co.	Lub.	29,200	"
8	J. Spurling	Lub. Gr.	200	"
9	A. Duckham & Co.	Lub.	1,200	Antwerp
9	E. G. Boize	Lub. Gr.	260	Hamburg
10	Port Authority	Lub.	2,340	"
10	P. Brancher	Lub. Gr.	510	Antwerp
10	Vacuum Oil Co.	Lub.	44,830	New York
10	Lubricating & Fuel Oils Co.		3,080	N. Orleans
10	British Petroleum Co.	Lamp	1,884,000	"
10	"	Fuel	323,700	Port Arthur
10	"	Gas	816,000	"
10	Anglo-American Oil Co.	Benzine	275,000	Novorossisk
10	"	Naphtha	1,619,350	"
11	Port Authority	Lub.	3,460	Hamburg
13	Hanseatic Maritime Agency		80	Bremen
13	P. Brancher		250	Antwerp
13	Produce Brokers Co.		1,600	"
13	"		10,800	New York
13	Scott's Wharf		3,750	"
13	F. Chiesman & Co.		2,140	"
13	Mordaunt Bros.		6,300	"

LIVERPOOL—

7	White Star Line		2,940	"
7	W. B. Dick & Co.		5,000	"
7	Pickford's	Lub. Oil and Paste	650	Hamburg
7	Bowring Petroleum Co.	Lub. Gr.	120	"
7	D. Currie & Co.	Lub.	240	"
7	Huxley & Co.		40	"
7	W. Gibson & Sons	Lamp	2,050	Boston
9	Meade-King, Robinson & Co.	Lub.	70,560	Philadel.
9	Burnaby & Chantrell		2,550	"
9	Worthington & Boler		7,200	"
9	Vacuum Oil Co.		11,670	"
9	Crew, Levick & Co.	Lub. Resid.	10,690	"
9	"	M. Colza	6,260	"
9	"	Lub.	75,680	"
10	Stockdale & Doel		12,440	"
10	Bramwell Fern & Co.		2,450	"
10	American Line		5,000	"
10	Anglo-American Oil Co.		23,360	"
10	W. B. Dick & Co.		10,000	"
10	A. Hopps & Sons	Lub. Resid	2,600	Quebec
10	Liverpool Shipowners' Supply Co.	Lub. Gr.	200	Antwerp
11	Pickford's	Lub. Oil and Gr.	310	Hamburg
13	Vacuum Oil Co.	Lub.	27,860	New York
13	Anglo-American Oil Co.		29,400	"
13	Bennett's Haulage, etc., Co.		3,220	Philadel.
13	Fellows, Morton & Clayton		2,100	"

BOSTON—

7	W. F. Beaumont	Lub. Gr.	130	Hamburg
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BRISTOL—

7	Pickford's	Lub. Oil and Gr.	510	"
9	Asiatic Petroleum Co.	Benzine	867,000	Rangoon
10	First Anglo-Russian Oil Co.	Lub.	2,060	New York
10	Anglo-Bosphorus Oil Co.		1,000	"
11	C. Hill & Sons		21,000	"
11	Ford & Canning		9,440	"
11	Pickford's	Lub. Gr.	310	Hamburg
13	First Anglo-Russian Oil Co.	Lub.	2,090	Antwerp

GOOLE—

6	Bennett Steamship Co.		40	Boulogne
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HARWICH—

4	Great Eastern Railway		80	Antwerp
6	"		20	"
7	"		490	"
9	"		40	"

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
Oct. HULL—				
23/9	T. Wilson, Sons & Co.	Lub.	3,400	New York
7	"	"	40	Bergen
8	"	"	37,880	New York
9	"	"	280	Copenhagen
9	Wilson's & N. E. Railway	"	240	Hamburg
9	"	"	1,000	Antwerp
9	"	Lub. Gr.	40	"
10	W. Gilyott & Co.	Lub.	20,640	New York
13	Wilson's & N. E. Railway	"	2,000	Hamburg

MANCHESTER—

7	Liverpool Storage Co.	M. Colza	1,400	Philadel.
7	"	Lub.	6,380	New York
7	Crew, Levick & Co.	"	3,060	Philadel.
7	F. Schofield & Co.	"	3,990	New York
8	W. Hodgson & Co.	"	500	Riga
8	"	Lub. Gr.	220	New York
8	Bramwell, Fern & Co.	Lub.	3,710	"
8	Staveley, Parker & Co.	"	200	Boston
8	Anglo-American Oil Co.	"	146,990	New York
8	W. W. Jones, Dooly & Co.	Lub. Gr.	3,800	"
8	J. T. Fletcher & Co.	Lub.	160	Antwerp
9	Meade-King, Robinson & Co.	M. Colza	2,600	Philadel.
9	"	Lub.	26,200	"
10	P. Moir, Crane & Co.	"	2,600	New York
10	T. Wilson, Sons & Co.	"	1,000	Riga
10	D. Currie & Co.	"	1,190	Hamburg
10	Pickford's	"	310	"
13	J. Nall & Co.	"	160	"

MIDDLESBROUGH—

10	J. J. Sutherland		200	Antwerp
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NEWCASTLE—

6	Tyne-Tees Steamship Co.		80	"
8	P. H. Matthiessen & Co.		310	Bergen

PLYMOUTH—

10	Bristol Steam Navig. Co.		520	Antwerp
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SOUTHAMPTON—

6	White Star Line		240	New York
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SUNDERLAND—

10	Anglo-American Oil Co.	Lamp	967,310	Philadel.
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DUNDEE—

9	D. Alexander & Sons		800	Hamburg
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GLASGOW—

8	Anchor Line	Lub. Oil and Gr.	4,200	New York
8	Clyde Shipping Co.	Lub.	7,050	Antwerp
13	Anchor Line	"	51,240	New York

LEITH—

6	G. Gibson & Co.		210	Rotterdam
6	Jas. Currie & Co.		120	Hamburg
6	W. G. Yooll & Co.	Lamp	4,360	"
6	"	"	4,360	"
7	Jas. Cormack & Co.	Lub.	800	Riga
7	G. Gibson & Co.	"	240	Ghent
7	"	"	240	Antwerp
9	W. G. Yooll & Co.	Lamp	3,490	Hamburg
9	Jas. Currie & Co.	Lub.	120	"
10	G. Gibson & Co.	"	20	Dunkirk
10	"	"	40	Antwerp
13	Jas. Currie & Co.	"	240	Hamburg

BELFAST—

7	J. C. Pinkerton & Co.	Lub. Oil and Gr.	560	"
11	British Petroleum Co.	Gas	652,500	Port Arthur

DUBLIN—

8	P. Murphy & Co.	Lub.	40	Hamburg
10	Anglo-American Oil Co.	Lamp	704,640	New York

LIMERICK—

6	Limerick Steamship Co.	Lub. Gr.	40	Hamburg
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8,969,670

Deduct—

BRISTOL—

23/9	British Petroleum Co.	Lamp	4,690	Port Arthur
			8,964,980	

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

October 17th, 1913.

Refined Petroleum prices are unchanged as follows:—Roumanian, 8d.; American, 8½d.; Russian, 8¾d.; Galician, 8¼d.; American Water White, 9½d.

LUBRICATING OILS.

The quotations are unchanged, being for:—

No. 1 Russian, £12. 2s. 6d.

No. 2 Russian, £10. 17s. 6d.

American pale, from £9. 12s. 6d.

American dark, from £11. 2s. 6d.

American filtered cylinder, from £13. 12s. 6d.

FUEL OIL

The market price is 70s. per ton, in bulk, ex wharf.

GREASE-MAKING OIL

Is quoted 80s. per ton, in bulk, ex wharf.

MOTOR SPIRIT

The retail price in London for the best quality is 1s. 9d. per gallon, and for second quality 1s. 7d. per gallon.

TURPENTINE.

American Turpentine is firm; the price is slightly higher than last week, being for spot 30s. 6d.; November/December, 30s. 9d.; January/April, 31s. 7½d.

LIVERPOOL.

October 16th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8¾d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, September 18th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.	...	5	4 0
Kerosene Oil "Waterlily," per case of two tins	...	4	15 0
" Firefly, per case of two tins	...	4	5 0
" Chukker, per two tins	...	3	11 0
" " per 8 gallons	...	3	11 6
" Victoria, per two tins	...	3	1 6
" " per 8 gallons	...	0	4 0
Burmah Wax, per pound, 1st quality	...	0	3 0
" " 2nd quality	...	0	4 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, October 16th.

Oklahoma crude is still quoted at \$1.03 per barrel. Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, October 16th.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, October 14th.

The petroleum prices remain unchanged. The demand for kerosene begins to be lively, that for benzine decreasing. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, October 14th.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 49–49½ copecs per pood spot. Mazout, 47½–48 copecs. Kerosene, 69–70 copecs.

ROUMANIA. October 14th.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including	Francs.
pipe-line charges, per 100 kgs. Bushtenari	7.40–7.50
" " " Moreni	6.00–7.00
" " " Tzintea	4.75–5.00
" " " Policiori	4.25–4.75
" " " Bana	8.75–9.25
Paraffin	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	26.00–26.50
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	18.00–18.50
Residuals, f.o.b. Constanza	...	7.00–7.50
Gas Oil...	...	8.00

AUSTRIA. October 14th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 32.50 kronen at Oderberg. Benzine, 740/750, 26 kronen; 750/760, 23 kronen, 760/770, 21 kronen, at Oderberg. Gas oil, 7.30 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, E.C., report under date October 9th as follows:—

The quarterly meeting of the tinplate trade was held at Birmingham to-day. The market was quiet with very little business doing and prices are unchanged as under:—

1c	18¾×14	124 sheets 110 lbs.	13/6 per box.
1c	20×10	225 " 156 "	19/3 "

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

The American Oil Market.

Saturday, September 27th, 1913.

THE week's review of operations in the Eastern fields, says the *Oil Paint and Drug Reporter*, was almost on a par, so far as completions, with the record of the former week, but the new production fell below the former aggregate. The current summary shows 226 completions, 3,420 barrels of new production, and 65 dry holes, as against 227 completions, 3,780 barrels of new production, and 68 dry holes for the former week. The only fields to score a larger number of new wells during the week under review were Indiana and Illinois. These fields also showed a heavy volume of new production, with Kentucky and North-western Ohio in the same favourable comparison. The greatest setback in the week's returns, both as to completions and new production, was experienced in West Virginia. Light pumpers have been the rule of late operations in this field, and there seems to be little promise for the development of any new pool of consequence in the State. The Kanawha county field, which for many months was the mainstay of new production, has slumped materially.

Slight gains are noted in the week's general returns from the Lima fields of North-western Ohio and Indiana, the former being credited with the greatest increase in new production, and the latter scoring the heaviest gain in completions. In the Ohio end drilling is well confined to the old territory. Wood county holds first place in new wells, but Hancock county is in the lead in new production, with Allen county a close second. In Indiana Sullivan county attracts principal attention, but the prospects are not encouraging for the discovery of any pool of consequence. A number of dry holes have been encountered around the edges of the new Shelburn pool, but the inside territory holds fair promise for the development of a prolific shallow pay sand, oil being found at a depth of 600 to 700 ft.

A review of the Gold Coast field for the week indicates relief from the intense heat that has prevailed of late, and heavy rains have been general over the field. While these have tended to retard operations, the relief from heat and drought is expected soon to stimulate drilling operations. A feature of the week's developments has been a 40-barrel producer in the Electra field. This strike was the result of deeper drilling, and the showing of oil is believed to indicate the productiveness of the lower formations, three distinct

pay sands having been encountered. The pipeline runs from the Texas end for August are given as 1,354,052 barrels, or 34,180 barrels in excess of the July period. The increase is attributed to activity in the Panhandle country and Electra field. Little activity is noted in the Louisiana end. The best well in that section is in the Mooringsport district, which is reported holding up at 2,242 barrels a day.

Refined Products.

The feature of the week in the local illuminating oil situation has been the activity of chartering engagements, stimulated by the freer offers of tonnage, and the consequent easing of rates. Leading interests were keen to take advantage of the more favourable situation, particularly for the more distant markets, for which rates had been at a premium to render the closing of charters more or less difficult.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. Sept. 27.	1913. Sept. 27.
Pennsylvania	\$1.60	\$2.50
North Lima	1.04	1.39
South Lima	0.99	1.34
Indiana	0.99	1.34
Illinois, above 30 degrees	0.87	1.30
Kansas and Oklahoma	0.70	1.03
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex	0.75	0.90
Californian, Coalinga light	0.65	0.60
" Kern River heavy	0.35	0.35
CANADIAN OIL	1.44	1.79

REFINED—FOR EXPORT.

In cents.	Week ended Sept. 27. S.W. 110 test.	W.W. 150 test.
Bulk, New York ... per gal.	5.00	6.00
Barrels, New York, cargo	8.70	9.70
Barrels, Philadelphia	8.70	9.70
Cases, New York	11.00	12.00
Cases, Philadelphia	11.00	12.00

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29½

TOTAL EXPORTS.

	Current week. Gallons.	Since Jan. 1, 1913. Gallons.	Since Jan. 1, 1912. Gallons.
Crude	9,320,160	117,465,559	90,091,625
Refined	21,550,475	662,038,452	675,305,130
Naphtha	1,473,180	83,810,665	112,857,590
Gas oil	1,006,820	24,229,700	48,016,485
Fuel oil... ..	18,400	98,492,669	60,491,720

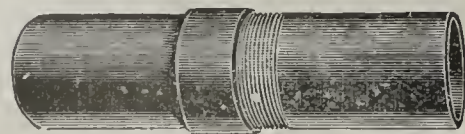
JOHN RUSSELL & CO., LTD.

Telegrams: "JAMNUT, LONDON."
Telephone: 1867 AVENUE.

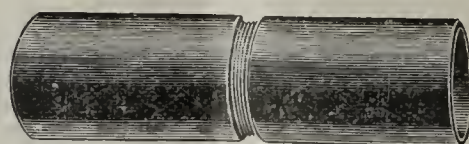
WALSALL.

WROUGHT IRON AND STEEL

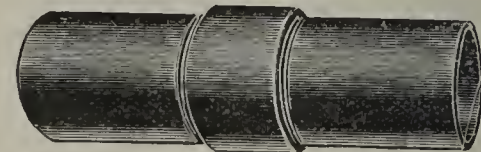
TUBES.



BULGED JOINT CASING for Oil Wells.



FLUSH JOINT CASING for Oil Wells.



SOCKET JOINT CASING for Oil Wells.

CASING TUBE,

PIPELINE,

DRIVE-PIPE,



OIL WELLS.



Export Office: Leadenhall Buildings,
2, Whittington Avenue, London, E.C.

From Lloyd's

OCTOBER 16TH, 1913.

THE "REVIEW" SHIPPING LIST.

The following abbreviations are used in this table:—L. Left. Pd. Passed. Arr. Arrived. Sp. Spoken. T. Trading. Cl. Cleared
The Anglo-American Co.'s vessels marked thus (*). The Anglo-Saxon Co.'s tankers thus (Δ). Messrs. Lane & Macandrew's thus (□).

Vessel.	From.	For.	Latest date and Position.	Vessel.	From.	For.	Latest date and Position.
ADORNA	Taltal	San Francisco	L. Oct. 1	DELAWARE*	Liverpool ..	Philadelphia	Pd. Fastnet Oct. 10
AMERICAN	Antwerp ...	New York ..	Arr. Oct. 8	DERBENT	Batoum ...	Antwerp ...	Arr. Oct. 12, in port Oct. 14
APPALACHEE*	New Orleans	London	L. Norfolk, Va., Oct. 6	DEUTSCHLAND....	Stockholm & Tyne	Baton Rouge	Pd. Dunnet Head Oct. 12
APSCHERON.....	Kustendje ..	Alexandria	Pd. Constantinople Oct. 8	DIAMANT	Tyne.....	Philadelphia	Pa. Dunnet Head Oct. 9
ARAL.....	Philadelphia	Bergen	L. Oct. 9	DONAX	Tyne.....	Kustendje & Alexandria	Pd. Gibraltar Oct. 4
ARAS	Rotterdam	Philadelphia	L. Oct. 2	EDWARD L. DOHENY	Tyne.....	Tampico ...	6 miles E. of Caister Sept.
ARCA	Barrow.....	Rangoon ...	Pd. Perim Oct. 14	EL LOBO	Pisagua	Callao	Arr. ab't Oct. 15
ARTHUR VON GWINNER	—	—	Launched Eins-warden Dec. 24. Since completing	EL SEGUNDO	San Francisco	Seattle	Arr. Sept. 11
ASHTABULA*	San Francisco	Pisagua	L. Sept. 29	EL TORO	Barry	Kustendje ..	L. Oct. 11
ASTRAKHAN	Tyne.....	New York ..	Pd. Dunnet Head Oct. 15	ELAX Δ.....	Singapore ..	Gibraltar ..	L. Colombo Oct. 9
AUREOLE	New York ..	La Rochelle	Arr. Oct. 15	ELISE MARIE	Halmo & Tyne	Philadelphia	Pd. Dunnet Head Oct. 3
AZOV	San Francisco	Payta	Arr. ab't Sept. 29	EMANUEL NOBEL	Antwerp ...	Batoum ...	Pd. Oitavos Oct. 8
BAKU STANDARD	Antwerp ...	Kustendje ..	Pd. Prawle Point Oct. 15	ENERGIE.....	Tampa	Tampico ...	L. Sept. 30
BALAKANI □.....	Port Arthur	Belfast and Manchester	Pd. Fastnet Oct. 15	ERIVAN	Batoum ...	Rouen	Pd. Gibraltar Oct. 9
BATOUM	Port Victoria	Tyne.....	Arr. Sept. 11. In port Oct. 14	ESTURIA	Soesoe	Singapore ..	Arr. Oct. 4
BAYONNE	La Goulette	Philadelphia	Pd. Tarifa Oct. 4	EUPLECTELA Δ...	Kustendje ..	Stockholm ..	L. Gothenburg Oct. 14
BEACON LIGHT....	Port Arthur	Plymouth ..	Arr. Oct. 15	EXCELSIOR	Hamburg ..	Philadelphia	Pd. Prawle Pt. Oct. 14
BLOOMFIELD	Gulf of Mexico	Tuxpan	Arr. Oct. 13	F. A. TAMPLIN ...	London	Puerto Mexico	Pd. Lizard Oct. 11
BORJOM	Batoum	Alexandria	Cl. Constantinople Oct. 6	FRANCE MARIE ..	Port Arthur	Tampico ...	L. Oct. 1
BRILLIANT (Br. Bq.)	Philadelphia	Kobe	Arr. Aug. 10	(Belgian Ship)	New Orleans	Havana	Cl. Oct. 6
BRILLIANT.....	Philadelphia	Copenhagen	L. Oct. 5	GEESTEMUNDE ...	Maryport ..	New Orleans	Pd. Fastnet Oct. 13
BRITISH SUN	Amsterdam	Savannah ..	155 miles from Brow Hd. Oct. 1	GENESSE*	Tuxpan	Providence R.I.	Arr. Oct. 13
BROADMAYNE	New York ..	Rouen	L. Oct. 3	GEORGIAN PRINCE	Batoum	Singapore ..	Pd. Perim Sept. 30
BUFFALO	San Francisco	Woosung ...	L. Sept. 23	GOLDMOUTH Δ...	Los Angeles	Orient	L. Oct. 4
BULLMOUTH Δ.....	Balek Pappan	Hong Kong	L. Oct. 10	H. C. HENRY.....	Hamburg ..	Kiel	Arr. July 25, in port Sept. 30
BURGERMEISTER PETERSEN	New York ..	Dantzig	L. Sept. 30	HAGEN	—	—	T. between Tampico and Aransas Pass
C. A. CANFIELD* ..	Tampico ...	Baltimore ..	Arr. Oct. 8	HAINAUT (Barge) ..	—	—	L. Oct. 3
CALCUTTA (Br. Bq.)	Yokohama..	San Francisco	L. Sept. 15	HARPORT	Port Castro	Pisagua	L. Oct. 3
CAMILLO	Thames Haven	Newport ...	Arr. Oct. 9. In port Oct. 13	HARRY LUCHENBACH	New York ..	—	L. Oct. 3
CAPTAIN A. F. LUCAS	—	—	T. United States, Pacific	HARRY WADSWORTH*	Newport News	New York ..	Arr. July 31, in port Oct. 4
CARDIUM Δ.....	Tyne.....	Malta	Pd. Pantelleria Oct. 12	HELIOS	Copenhagen	Sabine	Arr. Norfolk, Va., Oct. 13
CARPATHIAN □...	Sunderland	Port Arthur	Pd. Lizard Oct. 9	HERA	Hamburg ..	Philadelphia	Arr. Oct. 11
CAUCASIAN □.....	Port Arthur	London and Amsterdam	L. Newport. News Sept. 30	HERBERT G. WYLE	Galveston ..	Tampico ...	L. Oct. 3
CHARLES E. HARWOOD	Tyne.....	Tampico ...	24 miles W. of Lizard Oct. 5	HERMIONE	Kustendje ..	Portsmouth	Pd. Gibraltar Oct. 11
CHARLOIS	Sabine Pass	Amsterdam	L. Norfolk, Va., Oct. 6	HESPERUS	Taltal	San Francisco	L. Oct. 2
CHATHAM	Galveston ..	Tampico ...	L. Sept. 26	HORLEY	Baltimore ..	Tampico ...	15 miles N. of Diamond Shoal Oct. 2
CHESTER.....	Antwerp ...	Norfolk, Va.	Arr. Oct. 2	HOTHAM NEWTON	Hull	Batoum ...	Cl. Constantinople Oct. 7
CHEYENNE	London	Kustendje ..	Pd. Dover Oct. 14	HYRCANIA	New Orleans	London	Arr. Oct. 14
CIRCISSIAN PRINCE	—	—	T. W. C. South America	ILLINOIS	Hamburg ..	New York ..	Arr. Oct. 1
CITY OF EVERETT	Tampico ...	New York ..	Arr. Sept. 29	IMPEROYAL.....	—	—	T. River St. Lawrence
CLAM Δ.....	Hull	Kustendje ..	Pd. Gibraltar Oct. 4	IMPOCO	Cette	Kustendje ..	Pd. Dardenelles Oct. 11
CLEARFIELD	Tyne and Thames Haven	Tuxpan	Pd. Southend Oct. 4	IOANNIS COUTZIS	—	—	On Government Service
CLIO	(now Wapello, which see)	—	—	IROQUOIS* (Towing Barge Navahoe)	Thames Haven	New York ..	Arr. Oct. 10
COMANCHEE	Dublin	New York ..	Pd. Brow Head Oct. 12	J. B. AUG. KESSLER	Portishead .	Barrow.....	Pd. South Stack Oct. 14
CONCH Δ.....	Suez	Abadan	Arr. Oct. 7	JULES HENRY ...	Marseilles...	Rotterdam .	Arr. May 24, in port Oct. 14
CONRAD MOHR ...	Tyne.....	New York ..	Cl. Sept. 30	(Fr. Bq.)	Singapore ..	Miri	L. Sept. 30
CORDELIA	Taltal	Port San Luis	Arr. ab't Oct. 15	JUNO	Hong Kong	San Francisco	Arr. Oct. 4
COWRIE Δ.....	San Francisco	Hong Kong	Arr. Oct. 8	KANAKUK	Batoum ...	Dunkirk	Arr. Oct. 15
CURRIER.....	Philadelphia	Cienfuegos ..	40 miles S. of Overfalls Oct. 1	KASBEK.....	New Orleans & Norfolk, Va.	Swinemunde	L. Norfolk, Va., Oct. 3
CYMBELINE	Philadelphia	Bordeaux...	L. Oct. 14	KIOWA	Kustendje ..	Antwerp ...	Arr. Sept. 19, in port Oct. 14
CZAR NICOLAI II ..	Batoum ...	Hamburg ..	Pd. Beachy Head Oct. 14	KOMETA	Tyne.....	Batoum ...	Pd. Dungeness Oct. 2
DAGHESTAN	Batoum ...	Antwerp ...	L. Oct. 12	KREMLIN	Oporto	New York ..	L. Corcubion Oct. 4
DANUBIAN □.....	Port Arthur	London	L. Newport News Oct. 11	LA CAMPINE	Antwerp ...	New York ..	Pd. Scilly Oct. 10
DAYLIGHT (Br. Bq.)	Philadelphia	Hiogo	Arr. May 1, in port July 12, for E. Coast, U.S.A.				

Vessel	From.	For.	Latest date and Position.	Vessel.	From.	For.	Latest date and Position.
LA FLANDRE	Antwerp ...	New York ..	Arr. Sept. 28	ROUMANIAN □	Sabine	London	L. Newport News Oct. 10
LA HESBAYE	Antwerp ...	New York ..	Pd. Beachy Head Oct. 10	ROUMANIAN PRINCE	Tampico ...	Rio Janeiro	Arr. Oct. 4
LACKAWANNA* ..	Manchester	New York ..	Pd. Eastham Oct. 2	RUSSIAN PRINCE	New York ..	Tampico ...	Pd. Diamond Light Sept. 25
LE COQ □	Cette	New York ..	Pd. Gibraltar Oct. 14	SALAHADJI Δ	Tarakan ...	Sydney	L. Sept. 27
LUCELLUM	Portland ...	Port Arthur (Tex.)	Arr. Oct. 13	SAMOSET	Singapore ..	San Francisco	Arr. Oct. 10
LUCERNA	Cette	Novorossisk	Pd. Dardenelles Oct. 11	SAN ANTONIO	—	—	T. Mexican Coast
LUCIGEN	Port Arthur	Sewall's Pt. & Portsm'h	L. Oct. 13	SAN BERNARDO ..	—	—	T. Mexican Coast
LUCILINE □	New York ..	Cette	Arr. Oct. 13	SAN CRISTOBAL ..	—	—	T. Mexican Coast
LUMEN	Marseilles...	Kustendje ..	Pd. Dardenelles Oct. 15	SAN DUNSTANO ..	London	Hull & New Orleans	10 miles E. of Southwold Oct. 15
LUTETIAN □	New York ..	Cette	L. Oct. 10	SAN EDUARDO ...	New York ..	Puerto Mexico	Arr. Oct. 12
LUX □	Gijon	Novorossisk	Pd. Sagres Oct. 10	SAN FRATERNO...	Tuxpan	Bahia Blanca	Arr. Oct. 12
LUZ BLANCA	Tyne & Amsterdam	Seattle ...	Arr. Coronel ab't Oct. 15	SAN GREGORIO ...	New York ..	Rotterdam	120 miles S.W. of Brow Head Oct. 16
MAKKAVEI	Reni	Batoum ...	L. Sulina Oct. 1	SAN RICARDO.....	Puerto Mexico	New York ..	L. Oct. 9
MANNHEIM	Philadelphia	Hamburg ...	Arr. Oct. 8, in port Oct. 14	SAN SILVESTRE...	New York ..	Manchester	Arr. Liverpool Oct. 14
MARGARETHA	Barrow.....	Liverpool ..	Arr. Oct. 2, in port Oct. 8	SAN TIRSO	Tyne.....	Mexico	120 miles W. of Lizard Oct. 6
MASCONOMO	Mi-ike.....	San Francisco	Arr. Oct. 11	SANTA RITA	Bilbao	Port San Luis*	L. Sept. 14
MASSASOIT	San Francisco	Kuchintotzu	L. Sept. 29	SATANTA*	Balek Pappan	San Francisco	Arr. Oct. 10
METEOR	Batoum ...	—	Pd. Dardanelles Oct. 13	SAXOLEINE	Rouen	Tyne.....	Arr. Oct. 11 In port Oct. 14
MEXICAN PRINCE	Shanghai ..	Balek Pappan	L. Oct. 9	SEBASTIAN.....	—	—	Launched Dundee April 24. Since completing
MIJDRECHT	Kustendje ..	Vlaardinger & Hamburg	Pd. Dardanelles Oct. 15	SEQUOYA	Balek Pappan	San Francisco	Arr. Oct. 15
MINA BREA	Callao	Talara	L. Sept. 4	SERVIAN □	Cardiff	Port Arthur	Pd. Barry Island Sept. 28
MIRA	New York ..	Savona	L. Oct. 7	SIOUX	New Orleans	Tampico ...	Left Port Eads Sept. 27
MITRA	Singapore ..	—	Pd. Sagres Oct. 14	SIRIUS	Emden	Kustendje ..	L. Constantinople Oct. 12
MOHAWK*.....	New Orleans	Campana ..	L. Port Eads Oct. 4	SOCONY	Sabine	New York ..	L. Sept. 25
MOHICAN	Philadelphia	Copenhagen	L. Oct. 12	SOYO MARU.....	Calcutta ...	Abadan	L. Sept. 7
MUREX Δ	Shanghai ...	Hong Kong	Arr. Sept. 20	SPLENDOR	New Orleans	Messina	L. Algiers Oct. 11
NARRAGANSETT ..	New York ..	London	Pd. Dover Oct. 16	STANDARD	Philadelphia	Tampico ...	Pd. Sand Key Sept. 29
NATICA	Cardiff	Colombo ...	Arr. ab't Oct. 15	STROMBUS Δ	Rangoon ...	Port Said ..	Pd. Perim Oct. 11
NELSON	Jucaro	New Orleans	Arr. Oct. 3	SULTAN VAN LANGKAT Δ	Calcutta ...	Rangoon ...	Arr. Oct. 14
NEW YORK*	New York ..	Rotterdam	L. Oct. 9	SUNLIGHT (Br. Bq.)	Flushing ...	Macoris	Sp. Sept. 30, 50 N., 6 W.
NIAGARA.....	San Francisco	Tsingtau ...	L. Sept. 26	SURAM	Antwerp & Norfolk, Va.	Sabine	L. Norfolk, Va., Oct. 6
NORMAN BRIDGE	New York ..	Tampico ...	L. Oct. 6	SUWANEE*	Philadelphia	Sunderland	Arr. Oct. 10. In port Oct. 14
OBERON	Tocopilla ..	Port San Luis	L. Sept. 28	TECUMSOH	Port Eads ..	Tampico ...	L. Oct. 5
OCEAN	Philadelphia	Rotterdam	Left. Oct. 8	TELENE Δ	Singapore ..	Tientsin ...	L. Shanghai Oct. 11
OILFIELD	Venice	Philadelphia	Pd. Gibraltar Oct. 10	TEREK	Cardiff	Philadelphia	Pd. Barry Island Oct. 11
OKLAHOMA	Hamburg ...	New York ..	Pd. Dover Oct. 16	TEXAS	Port Arthur	Delaware	L. Sept. 25
ORIFLAMME □	Philadelphia	Blaye	Pd. Delaware B'water Oct. 2	TIFLIS	Port Arthur B'water and New York	Genoa.....	Pd. Sagres Oct. 11
OSAGE	Kustendje	Alexandria	Arr. Oct. 15	TONAWANDA*	Rouen	New York ..	? Pd. Lizard Oct. 6
OTTAWA*.....	Sunderland & Terneuze	New Orleans	Pd. Sand Key Oct. 4	TRINCULO	Sunderland & Terneuze	Vancouver	Arr. Oct. 15
OURAL	Trieste	Kustendje ..	Left Oct. 10	TRINIDADIAN ...	San Francisco	Tampa	265 miles S.E. of Egmont Key Oct. 5
PATELLA Δ	Rangoon ...	Port Said ..	Arr. Suez Oct. 16	TRITON	Baton Rouge	Rotterdam	L. Oct. 9
PAUL PAIX	New York ..	Dunkirk ...	Arr. Oct. 12. In port Oct. 14	TROCAS Δ	Rangoon ...	Calcutta ...	Arr. Oct. 9
PAULA	Copenhagen	New York ..	Pd. Dunnet Head Oct. 13	TURBO	Novorossisk	Colombo ...	Arr. Aden Oct. 11
PAWNEE	New York ..	Rotterdam	Arr. Oct. 11. In port Oct. 14	UNCAS	Calcutta ...	San Francisco	Arr. Oct. 11
PECTAN	San Francisco	Antofagasta	Arr. Oct. 10	VEDRA	Hamburg ..	Baton Rouge	Off The Wight Oct. 6
PENNOIL	Rotterdam	Port Arthur	Arr. Oct. 13	VILLE DE DIEPPE (Norwegian Bq.)	La Pallico ..	Philadelphia	Arr. Oct. 10
PETROLEINE.....	Rouen	Tyne.....	Arr. Oct. 14	VITRUVIA	Clyde	Port Arthur (Tex.)	15 miles W. of Malin Head Oct. 4
PETROLEUM	Portland ...	Kustendje ..	Left Oct. 10	VOLCANUS	Soesoe	Singapore ..	Arr. Oct. 13
PHOEBUS	Antofagasta	San Francisco	Arr. Oct. 7	VOLUTE Δ	Hankow ...	Balek Pappan	L. Oct. 9
PINNA □	London	New Orleans	Arr. Oct. 13	WABASHA	Yokohama..	San Francisco	Arr. Oct. 8
PONUS	San Francisco	Moji	L. Sept. 28	WANETA	Port Aransas	Tampico ...	L. Sept. 18
POTOMAC*.....	London	Sabine	Pd. Sand Key Oct. 14	WAPELLO	Tyne.....	New York ..	Pd. Dunnet Head Oct. 8
POWHATAN	Mi-ike.....	San Francisco	Arr. Oct. 13	WASHINGTON ...	Kustendje ..	Copenhagen	Pd. Dover Oct. 12
PROMETHEUS	Baton Rouge & Campana	Callao	Arr. about Oct. 15	WEEHAWKEN	New York ..	Alicante ...	L. Oct. 11
PRUDENTIA	New York ..	Tampico ...	L. Trinidad Oct. 4	WILLIAM F. HERRIN	Honolulu ..	Port San Luis	L. Sept. 15
PURELIGHT	Hamburg ...	Port Arthur	Pd. Prawle Point Oct. 13	WILKOMMEN	Copenhagen	New York ..	Arr. Oct. 8
QUEVILLY (Fr. Bq.)	New York ..	Rouen	L. Sept. 27	WINAMAC	New York ..	Port Said ..	Arr. Fayal Oct. 1
RADIOLEINE II ...	New Orleans & Newport News	Cette	Arr. Oct. 10				
RANELLA	Batoum ...	Colombo ...	L. Suez. Oct. 11				
REDOVA (Br. Bq.)	Seville	New York ..	Pd. Bonanza Sept. 20				
RION	Liverpool ..	Philadelphia	Pd. Brow Head Oct. 8				
ROCK LIGHT □ ...	Port Arthur & London	Grange-mouth	Pd. Flambro' Head Oct. 15				
ROMANY Δ	Kustendje ..	La Pallice ..	Pd. Finisterre Oct. 15				
ROSALIND	New Orleans & Norfolk	Hamburg ...	Arr. Oct. 9				
ROTTERDAM	New York ..	Rotterdam	Pd. Dover Oct. 15				

The Petroleum Review Directory.

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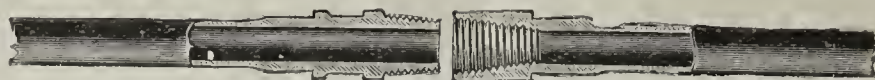
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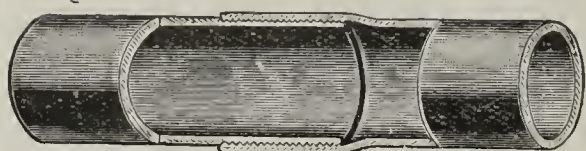
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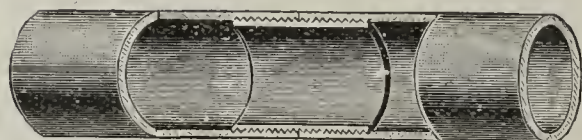
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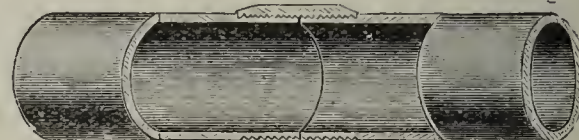
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PARKER MOGUL ROTARY IN OPERATION.

Taken from the top of Derrick.



1. Rotary Table.
2. Drill Stem.
3. Swivel.
4. Travelling Block & Hoisting Lines.
5. Hoisting Drum.
6. Flexible Hose connecting Swivel to Pump.

7. Chain driving Rotary Table.
8. Driller; showing position of control levers.
9. Helper.
10. Elevators and Slide Tongs.
11. Spare Drill Stem.

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THE PETROLEUM REVIEW.

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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

The "Shell" Strengthens Its Position in California.

THE latest information from California is to the effect that the "Shell" and Royal Dutch interests have strengthened their positions in the Californian fields by acquiring another set of properties for a consideration running into seven figures sterling. Those who have followed the movements of this great amalgamation of capital recently must have seen that there has been a grim determination to conclude negotiations by which the combine would immediately assume the position of one of the chief factors in the State's petroleum industry. The purchase of the holdings of the California Oilfields, Ltd., was but one step in this direction; the unsuccessful attempt to get control of the Kern River Oilfields of California, Ltd., another. Now comes news of the acquisition of the Turner and W. K. oil companies, whose interests in the State are very wide and solid. Both companies have a substantial production of high-grade refining oil, and their passing under the control of the "Shell" and allied interests is recognised by Californian oilmen as a remarkably fine piece of business—for the purchasers.

The Petroleum and Gas Resources of Canada.

ELSEWHERE in this issue we commence the publication of a summarised report upon the petroleum and natural gas resources of Canada, and in giving publicity to this important document it is well to mention that it is the outcome of much laborious work on the part of Messrs. F. G. Clapp and L. G. Huntley, who were entrusted with the difficult mission of studying the resources of the Dominion, the history of developments, the status of production, stratigraphy, drilling methods, markets, systems of transportation, and such other technical details as are necessary in exploiting Canada's resources to their best advantage. The resulting report is of great value not only to the operators themselves, but also to the layman who may intend entering the business of oil or gas production.

French Control of the South Caucasian Syndicate.

THE great interest which French and Russian capitalists are taking in concerns operating in the oil-fields of the Caucasus is clearly exemplified in the negotiations recently concluded in regard to the South Caucasian Syndicate.

It appears that the whole of the remaining ordinary shares of the company, numbering 14,993, and 3,000 deferred shares, have been taken up almost entirely by the Banque Russo-Asiatique, the Banque Internationale de Commerce à St. Petersburg, Mr. N. G. Bardac and Messrs. Rosenberg et Cie., of Paris. Three directors have been nominated by the French banks to the board which now comprises:—His Excellency Alexis Poutiloff (president of the Banque Russo-Asiatique, of St. Petersburg), chairman; the Marquis de la Gandara, vice-chairman; Mr. N. Raffalovich, of the Banque Russo-Asiatique; Mr. J. Radine, of the Banque Internationale de Commerce à St. Petersburg; Mr. Alfred Hicks and Mr. A. W. Eastlake (technical director). The control and management of the affairs of the syndicate, which has acquired options over oil-bearing areas in the Caucasus, will in future be vested in the hands of the French interests.

The World's First "All-Oil" Battleship.

ENGLAND can take credit in the fact that it possesses the first "all-oil" battleship in the world, for the "Queen Elizabeth" will carry no coal whatsoever. We have, of course, a large number of destroyers so equipped, but the "Queen Elizabeth" is the first "all-oil" battleship to be launched, although the American "Nevada" and "Oklahoma" were the first to be designed. The substitution of oil for coal not only gives the ship a radius of action greater by 60 per cent. than would otherwise have been the case, but it will also allow a very great reduction to be made in the crew. In a coal-burning ship nearly a half of the complement is made up of stokers, who have to bring the coal from the bunkers to the stokehold, and shovel it in as it is required. In the oil-burning ship, however, the fuel is pumped from the tanks and double bottoms straight into the furnaces, where it burns fiercely at the end of a spray. The exact difference oil makes to the fighting power of a ship may be seen by comparing the "Queen Elizabeth" with the coal-burning "Queen Mary." The former is heavier by 500 tons, displacing 27,500, and her speed will be 28 knots per hour. The battleship, however, will have 13½ in. of side armour as against 9 in., and a broadside of eight 15-in. (15,600 lb.) as against eight new-pattern 13.5-in. (11,000 lb.). The "Queen Elizabeth" will cost about £2,250,000—roughly, a quarter of a million more than the "Queen Mary."

THE BRITISH-AUSTRALIAN OIL COMPANY, LTD.

Appointment of Mr. G. H. Watson as Sales Manager.

OUR readers, as well as the general body of shareholders of the British-Australian Oil Company, Ltd., will be pleased to learn that Mr. George H. Watson, late general manager of the Homelight Oil Company, Ltd., and more recently associated with The Texas Company, has been appointed sales manager for the company in Australasia.

Mr. Watson left London for Sydney yesterday (Friday) on board the Orient liner "Orsova" amid the many good wishes of his numerous friends.

THE BURMA OIL COMPANY, LTD.

Interim Dividends for 1913.

AT a meeting of directors held on Wednesday, the following interim dividends for the year 1913 were declared, payable on November 4th to shareholders registered prior to this date. (1) On the first preference shares of £1 each, 7½d. per share (equivalent to 6 per cent. per annum to June 30th, 1913) under deduction of income tax at 1s. 2d. in the £; (2) on the second preference shares of £10 each, 6s. per share (equivalent to 6 per cent. per annum to June 30th, 1913) under deduction of income tax at 1s. 2d. in the £; and (3) on the ordinary shares of £1 each, 1s. 6d. per share (equivalent to 15 per cent. per annum to June 30th, 1913) free of income tax.

ANSWERS TO CORRESPONDENTS.

"PRACTICAL" (Glasgow).—The approximate cost of raising oil shale is a trifle over 5s. per ton, but naturally this depends upon the quality of the shale itself. If you take the figure just given as an average, you will not be far out.

"INQUIRER" (Bucarest).—The Steaua-Romana's crude oil production last financial year was 403,000 tons. Ten years ago it was 184,000 tons for the twelve months. The company's crude oil production so far has been about three and a quarter million tons. Its greatest production in any one year was for 1909-10, when its output was 447,000 tons.

"C. S. F." (Brighton).—The better plan would be to study Mr. Skinner's "Oil and Petroleum Manual," published yearly, price 2s. 6d. The publishing offices are at 11/12, Clement's Lane, Lombard Street, E.C.

"TANKER" (Liverpool).—The distance from Batoum to London is 3,700 miles, and from New York to London just under 3,300 miles. Romana's export port of Constantza is about the same distance from London as New York—a little greater if anything.

SITUATION VACANT.

OIL REFINER WANTED for abroad. One with experience in refining shale oils essential. Write, giving full particulars, to "SHALE," c/o PETROLEUM REVIEW, 45, St. Mary Axe, London, E.C.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended October 18th was 118,000 poods.

SPIES PETROLEUM COMPANY, LTD.—The production for week ended October 19th, including 31,690 poods from ambars, was 312,525 poods, or about 5,041 tons. The total production for the year, from January 14th to October 19th, was 10,343,535 poods, or about 166,831 tons. The total production for the corresponding period last year was 13,097,750 poods, or about 211,254 tons. Price of crude oil at Baku is now 49½ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended October 18th was 19,373 poods (312 tons).

EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended October 19th was 105,500 poods, or 1,699 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended October 18th was 126,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended October 18th was 28,308 poods (457 tons). Average price at Ekaterinodar, 53 copecs.

MAIKOP NEW PRODUCERS, LTD.—Production for week ended October 11th was 7,900 poods, or 127 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended October 19th was 10,353 poods, or 167 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended October 18th, 103,990 poods or 1,677 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest production for week ended October 21st was 213,000 poods, or 3,436 tons. Corresponding period last year, 680 tons. Total production to date for this year, 81,465 tons, last year 23,485 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended October 19th was 84,100 poods, or 1,356 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended October 18th was 4,430 poods, or 71 tons.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended October 11th was 15,289 poods (246 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended October 18th was 1,455 poods (23 tons).

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The Kern River Oilfields of California, Ltd.

An Influential Concern with Good Properties and a Bright Future.

IN the list of English companies operating in the Californian field a very prominent position is taken by the Kern River Oilfields of California, Limited, which held its fourth annual meeting in London a few days ago.

Until quite recently the company has been the centre of comparatively little interest by the investing public in this country; it was only when the news leaked out that overtures had been made to the directors by the Shell-Royal Dutch group, with a view to acquiring the whole of its assets, that greater public attention was attracted to the company and its potentialities. Although we are in possession of many of the details upon which the "Shell" offer was based,

in the Kern field, this being the territory which had been developed with such success by the former owners—the Thirty-Three Oil Company. It was soon evident, however, that the output on this section was steadily declining, due, of course, to years of continuous pumping, and therefore the directors turned their attention to the acquisition of new areas, of which we shall speak later. By keeping the old properties in up-to-date condition, however, and by effecting economies in regard to pumping, section 33 is still a good paying proposition, and will doubtless continue to be so for many years to come. Last year the section produced nearly one million barrels of crude, and though over twelve per cent. of this was used as fuel on the fields



General View of the Company's Properties in the Kern Field.

we will content ourselves by simply remarking that there is no doubt the Kern River Company directors were well advised not to take advantage of the offer, favourable though it was in comparison with that previously made by the same powerful group.

Headed by Mr. William Ivey, the chairman of the company, the Board has rigidly adhered to a policy of strict economy, conserving their financial resources as much as possible, with the result that to-day the company is in the proud position of having, not only considerable assets in the form of oil-producing land of undoubted value, but what is quite as important—an ample reserve of capital at the bank.

Formed for the purpose of acquiring the properties and assets of the Imperial Oil Company and the Thirty-Three Oil Company, as well as oil-bearing lands in California belonging to the Keith and Mack Oil Company, the Kern River Oilfields of California, Limited, at once became the possessor of a considerable crude oil production in the Kern River field, and also the owner of large territories of oil land, its freehold properties alone being well over 2,000 acres. The major portion of the crude oil output was obtained from section 33

the percentage of oil fuel required for power purposes is now being substantially reduced, owing to the advent of the electric motor. As a matter of fact, it has been proved over and over again in the Californian fields that the adoption of electric power for pumping operations has reduced costs almost one half. The Board of the Kern River Oilfields of California has not been slow to recognise the decided advantage of the electric motor over the old form of steam power, for to-day, out of a total of 240 oil wells on the old 33 section of the Kern field, no less than 181 are operated by electric power, while several have air compressors installed only, the remainder being operated by steam. The ingenious method of operating several wells from one central electric station, which has for some years past gained such favour among many of the largest oil operating concerns in California, has been carried out upon such successful lines in the case of the Kern River Oilfields, that no less than 22 different wells are now worked from one motor. It is economies such as these that have brought about such substantial savings that the company's section 33, though now producing less oil than formerly, is being operated with greater profits

to the company. In this section, the company now has its own water wells—an advantage which everyone acquainted with oilfield operations will readily appreciate. Formerly the company paid approximately £240 per month for water for power purposes; to-day it pays only about one-eighth of this amount.

But it is in regard to the development of its newly acquired properties in California that the promising future of the company must largely rest, and these properties—widely scattered in three distinct fields—are held by the St. Helens Petroleum Company, Limited, a subsidiary concern.

Some readers there may be who are not fully acquainted with the circumstances which led up to the



Other Views of the Property —

formation of this new company, and therefore a little explanation might be desirable at this point. In order to have an adequate outlet for its crude oil from its Kern properties, the Kern River Oilfields of California entered into a contract with the Associated Oil Company, whereby it should be purchased at a certain fixed price. The contract was for a definite quantity, and the price was an equitable one for Kern river oil, which is a heavy grade oil, and used mostly for liquid fuel purposes, its constituents rendering it undesirable for refining purposes. When, therefore, the Board of Directors concluded negotiations for the acquisition of further oil lands, the oil from which was of a higher grade quality, and therefore in a position to command an enhanced price, it was decided that a separate company should hold and operate the new properties. The effect of this policy obviously is to benefit the shareholders in the Kern River Oilfields of California, since all the shares in the subsidiary company are controlled by the Kern River Company, to which all the profits belong.

In the Santa Maria fields the subsidiary holds the Fugler lease of 1,040 acres, upon which drilling is proceeding as rapidly as possible. This territory is some few miles to the north-east of the recognised producing area, but is none the less favourably situated, and the fact that other important operating interests have acquired land in the proximity, suggests that the territory held, which is in three different sections, is of great value. The crude oil in this field commands highly remunerative prices, while one characteristic of the Santa Maria wells is that they give off enormous quantities of natural gas, much of which to-day is condensed and utilised as motor spirit. The production of the field is nearly 600,000 barrels of oil per month. So far, the St. Helens Company is sinking one well, this being upon section 35, and near the extensive asphalt deposits. The well is down some 2,700 ft., and judging by the shows of oil and gas which have been met with in the course of drilling the result may be looked upon as a satisfactory foregone conclusion.

The company has also leases of nearly 100 acres in the well-known Fullerton field, which field now yields monthly nearly 900,000 barrels of high grade

oil. The leases in this field are upon four sections—the Anaheim, Anderson, Edwardson, and Johnson. Though drilling was only commenced upon the first-named lease in February last, oil was struck in large quantity last June at a depth of a little over 3,000 ft., the well having an initial production of over 400 barrels daily, but which has now settled down to one-third of this quantity. The crude oil has a gravity of .938. In this part of the Fullerton field the company is drilling two other wells, and in view of the fact that it has now been established that a second and richer oil stratum lies about 200 ft. lower, it is the intention of the Board to get all their wells down to this prolific level. The stratification of the Fullerton field is such that the drilling of wells is comparatively easy in spite of the great depth, and this is shown by the results achieved in the company's first well, where over 700 ft. per month were passed.

There is no doubt, however, that it is in the Midway field that a vast portion of the future profits of the company will be made, for here, not only is the oil-strata very prolific, but the crude oil is of very high grade, commanding to-day from 55 to 75 cents per barrel. Practically one-half the crude oil production of California to-day comes from the Midway district, and this is derived from eleven hundred wells—such is their remarkable productivity. Here the St. Helens Company controls two leases, covering an area of 220 acres. Three wells have been drilled on these properties, two of which have been completed. One well came into production last August, and started off with a daily yield of 125 barrels of oil and a large quantity of gas. The oil is realising 75 cents per barrel, while arrangements are being made for the disposal of the gas. So far this well has produced about 6,000 barrels. Another well, which has a small yield, has given trouble on account of the enormous gas pressure, for some time ago it “blew out.” This in itself is an expensive luxury not generally sought after, yet it unmistakably proves the prolific nature of the strata, and its ability to yield substantial returns



—Showing “Sumps” of Oil—now a thing of the past.

to the operators. The company's third well in the field is down nearly 500 ft., while its fourth well—on the McLeod lease—is nearing the producing sands at 3,000 ft.

Leaving the company's properties in the Kern county fields altogether out of the question, it possesses territory in the other fields sufficient to keep up active development for many years to come, and it is safe to say that so long as the reins are held by the same gentlemen, who have so satisfactorily guided the company through its somewhat troublesome time of the past three years, there need be no misgivings on the part of shareholders as to the remunerative value of their investment, for the modest dividend recently declared is but a forerunner of many handsome returns to all associated with the Kern River Oilfields of California, Limited.

NOTES FROM THE OILFIELDS.

AMERICAN.

Mid-Continental Production.—The total crude oil production in the mid-continental fields during September amounted to 5,700,000 barrels, or an average of over 194,000 barrels per day.

Oil in Comanche County.—Considerable interest has been aroused in the discovery of oil in a well in progress of boring at Sipa Springs, in Comanche County, by the Comanche Oil Company. It is thought probable that a producing field will be developed in this part of Texas.

Rains Check Operations.—Operations in the Texas fields have lately been greatly impeded by excessive rains. The pipeline runs, however, have not been damaged, and the storage stocks of all the large companies show an increase over the figures at the commencement of September.

Oil in Stock.—The stocks of crude oil in the mid-continental fields now stand at over 41,000,000 barrels, or 2,000,000 more than at the commencement of the present year. It is anticipated that stocks will continue to steadily increase, for the production consequent upon the coming in of the large wells in Cleveland, will shortly materially expand in its proportions.

The Sunset-Midway Fields.—These Californian fields now show less activity than has been known for three years, yet the output of crude oil is larger than it has ever been. The production is something approaching 110,000 barrels per day. Nearly one-half of this production is the property of the Standard Oil Company, whose daily output has had a tremendous jump during the past three months.

Overcoming the Water Trouble.—The water trouble which at one time threatened to ruin the production in the Midway field of California is now being successfully combated in a systematic manner by the Oilmen's Protective Association. A water commissioner is now employed whose duty it is to see that the water is properly and effectively shut off in every well drilled. Attention is being given to old wells which have been flooded; these are either being cemented or plugged.

Pipelines as Common Carriers.—The progress which is being made in the hearing before the Californian State Railroad Commission to determine which pipeline concerns are amenable to the common carrier law, indicates that several months will elapse before the provisions of the law are carried into effect. The Independent Transportation Company is making a strenuous fight against the new law, contending that its line was really the means of preventing a monopoly in transportation of oil in the State.

RUSSIAN.

Amalgamation of the Kavkas Company and the Merkuri Company.—These two large Russian shipping companies have decided at a general meeting of the shareholders to amalgamate into one company under the name of the "Kavkas, Merkuri & Eastern Company."

Enquiry into the State of the Russian Industry.—A special committee has been formed by the Minister of Finances in order to make an exhaustive investigation and statistical table of the operations of the Minister of Finances as regards the levying of the industrial taxes. This will at the same time allow the committee to draw conclusions respecting the general situation of the development of Russian trade and industry.

Measures for the Protection of the Caspian Sea.—The Ministry of Ways and Communications has presented to the Duma a project in order to protect the Caspian Volga waterway from being soiled with petroleum refuse. The former measure elaborated by the Ministry will, according to competent persons, lead to the concentration of the whole transport of petroleum along the Caspian Volga waterway, and some shipowners have already secured iron vessels. The new project will prohibit the transport of petroleum products on vessels which are not fit for the purpose.

Peat Industry in Russia.—The peat area in Russia totals over 55,000,000 dessiatines, but notwithstanding this enormous area the peat industry in Russia is still in its infancy. It is developed in the central district—in Moscow, Vladimir, Nijni and other adjoining provinces—where various factories and mills have almost exclusively passed to the use of peat, which is produced on peat areas acquired or leased from the Government. Thus Morozoff works, which employ 30,000 hands, produce 75,000,000 poods of

peat per annum, and use for this purpose twenty-five peat machines, while during the next summer they will use no less than sixty. The fuel is sold on the market at about 27 copecs per pood. Its calorific value is but slightly inferior to coal, yet much superior to wood.

Petroleum in Sakhalin.—Unfavourable economical conditions and the scarce population of the Sakhalin Island, as well as the uncultured state of the latter has considerably hindered the progress of exploration works on the petroliferous areas of Sakhalin. In 1909 an expedition was sent to the Sakhalin by Dr. Dvorkovitz, having at its head Professor Lewis. This expedition made a geological investigation of the eastern shore of the island, and there obtained the first oil. Subsequent expeditions in 1910 and 1912 brought over necessary tools and materials for boring, and erected a narrow railway line for a distance of about three miles. They also erected workmen's dwellings, stores, etc., and generally prepared everything necessary for carrying on the boring of several wells down to a depth of over 2,000 ft. The company is now asking the Ministry to prolong the validity of Zaiavki for another five years, a demand which has now been granted by the Ministry of Trade and Industry.

ROUMANIAN.

Prices.—The prices of crude oil and products are very firm; crude oil is continually rising. There is no change in the prices for exportation.

The Steaua-Romana.—The production of this company during the last week has averaged 1,120 tons a day. Eruptions have been registered from the following wells:—Gahitza, Moreni and Runcu.

Bordeni.—Well No. 28, Anglo-Roumanian Petroleum Company, Ltd., has been bored to a depth of 408 metres, where it has met a powerful stratum of petroleum. The first eruption has given over 300 tons in six hours, and then the well became blocked with sand.

General Situation.—The general situation does not present anything particular. The production amounts to 5,760 tons a day, principally from the fields at Moreni and Tzintea. Steaua-Romana and Astra-Romana are expecting a considerable increase in their production.

The Orion Company's Spouter.—On the night of September 26th, a spouter broke out from a well situated on the field of Gropi-Bushtenari of the Orion Company, yielding 1,500 tons a day. The eruption was quite unexpected; and hundreds of wagons of oil were lost.

Electricity on the Fields.—The Ministerial decision concerning the use of electricity on the fields has now been promulgated, but in view of the great difficulties and the application of new measures on the field, the Ministry is reconsidering the project and will shortly elaborate new regulations concerning this question.

Gropi.—Well No. 203 of the Orion Company, has struck oil at 384 metres with an extraordinary violent eruption. A cloud of petroleum vapour invaded the whole valley, and this has rendered the work of saving crude oil very difficult and dangerous. The well now gives by regular eruptions 400 tons of oil a day.

The Concordia.—The managing director of the German petroleum company in Berlin, which manages the affairs of the Concordia, Vega, and the Credit Petrolifer, is now at Bucarest in view of organising some new works on the Concordia, which are going to considerably enhance the value of the territory held by this company.

Production during September.—The production of petroleum during September by firms adopting the new style of operating was as follows:—Astra-Romana, 38,136 tons; Romana-Americana, 25,664 tons; Roumanian Consolidated Oil Fields, 6,299 tons; Orion, 5,577 tons; International, 3,437 tons; Traian Roumanian Oil Company, 1,607 tons; Aquila Franco-Romana, 1,283 tons.

Colombia.—This company is now making all necessary preparations for resuming work in well No. 2 at Tzuicani, which has now a depth of 570 metres. Another 67 metres are necessary in order to reach the very rich stratum which is at present exploited by well No. 1. At Gropi, well No. 79 has increased its production from 30 to 50 tons a day. Well No. 80, which has a depth of 310 metres, requires another 70 metres in order to bring it to the petroliferous stratum. Two new wells have been commenced in the same locality.

AN ECONOMICAL NEW METHOD OF CONSUMING LIQUID FUEL.

By Prof. K. KHARITCHKOFF.

SOME time ago a great sensation was produced in technical quarters by the mention of the so-called "surface" burning, that is to say, of a new method of utilising gaseous fuel—a method which gives 93 per cent. of economy and evaporates 147 kilogrammes of water per square metre of surface. This new method practically consists of the so-called burning without flame. This phenomenon takes place when gas coming into contact with an incandescent surface continues to burn without flame, maintaining the surface in its incandescent state. This was observed as far back as 1823 by Dobereiner when contracting a mixture of gases on spongy platinum, but it has only recently been actually utilised for the construction of self-igniting devices, such as gas nettings or substitutes of matches. Quite recently Shuabel and Bone have demonstrated that there is not only spongy platinum, but other accessible materials, such as fireproof clay, which causes the same processes of incandescence and surface burning that take place in the Dobereiner apparatus. Thus the whole process can easily become useful in technical practice and can be applied with great advantage, for the concentration of the burning at a certain point allows of such a utilisation of the heat that a temperature of 2,000 degrees can easily be obtained. These and such like conditions of surface burning are arrived at without the necessity of an excess of air, and the whole

process is accomplished by means of the theoretical quantity of oxygen necessary for the combustion.

In a recent report on surface combustion in its raw and technical practice, read at the German Society of Steel Manufacturers, Berlin, there were some very interesting questions discussed, among which were (1) the adaptability of the surface burning to the process of burning liquid fuel, and (2) of its adaptability under boilers generally. It was pointed out that if a mixture of pulverised petroleum and air is passed through a porous stone there will be burning and incandescence, but there will also be smoke; but if the porous stone is previously brought to an incandescent state the burning will go on quite smoothly. There is thus a hope that technical practice will be able to apply the surface burning to liquid fuel.

BAKU PETROLEUM DURING EIGHT MONTHS.

THE production of petroleum on the Baku oilfields during the eight months of the present year has amounted to 260,800,000 poods, as against 275,200,000 poods obtained during the corresponding period of 1912. During the first third of the year the production has increased in comparison with that of 1912 by 1.63 per cent., and during the second third of the year it has diminished by 16,600,000 poods, or by 11 per cent.; the total production for the eight months has decreased by 14,400,000 poods, *i.e.*, by 5.2 per cent. A considerable part of this decrease is due to the recent strike.

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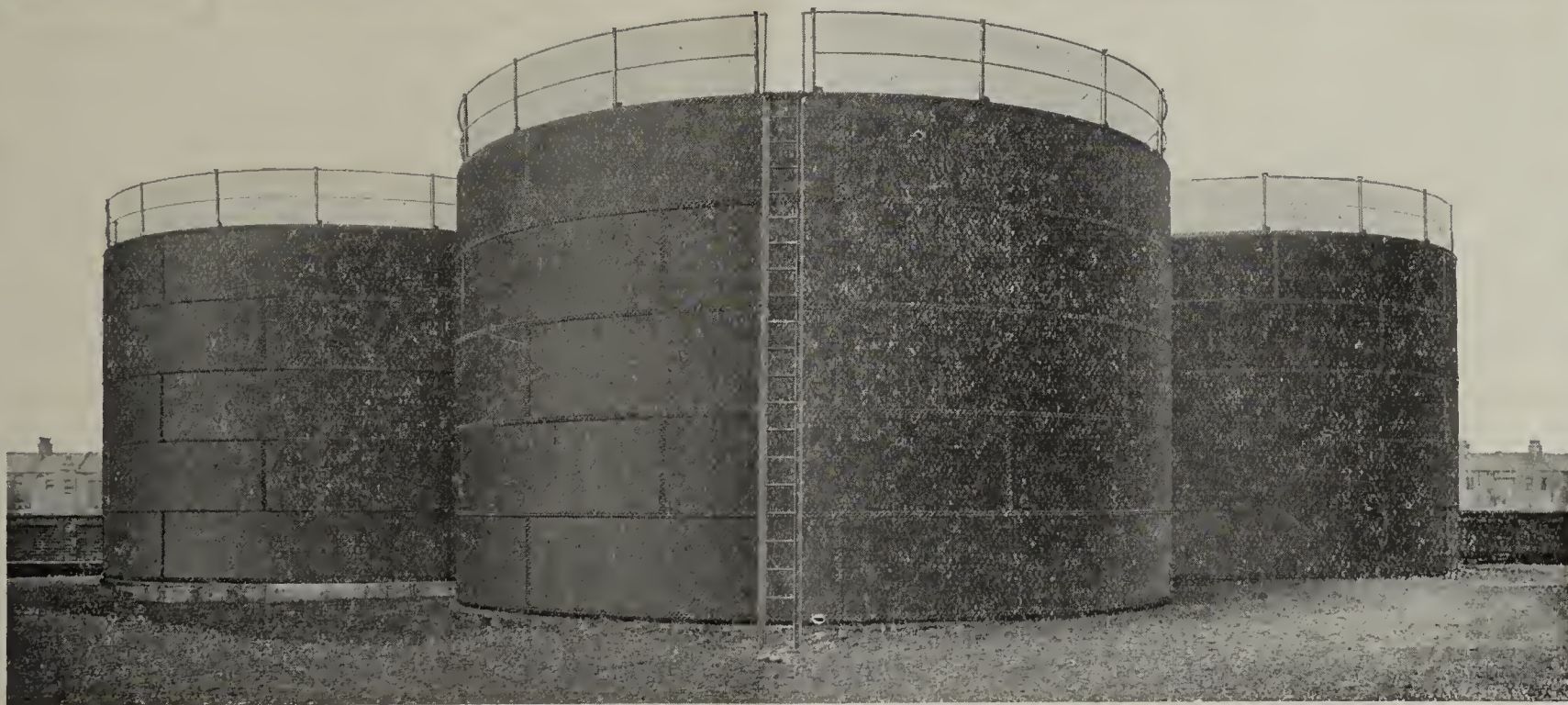
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LATEST QUOTATIONS OF PETROLEUM SHARES.

ENGLISH COMPANIES.

This list is restricted to companies who have paid dividends or who are producers.

Company.	Share Capital.	Value of Shares.	Latest Prices.
Anglo-Maikop Corporation...	£ 650,000	£1	$\frac{1}{2} - \frac{9}{16}$
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{13}{16} - \frac{15}{16}$
„ 5% Deb. Stock ...	600,000	£100	86-90
Assam Oil ...	310,000	£1	$\frac{5}{8} - \frac{3}{4}$
Baku Russian Petroleum Co.	750,000	10/-	5/0-5/6
Bibi-Eibat Oil Co. ...	250,000	10/-	7/9-8/3
European Oilfields ...	385,000	10/-	6'6-7/6
Lobitos Oilfields, Ltd. ...	400,000	£1	27/9-28/9
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{5}{8} - \frac{3}{4}$
Pacific Oilfields, Ltd. ...	250,000	£1	3/0-4/0
Roumanian Consolidated Oilfields ...	1,750,000	£1	19/6-20/6
Russian Petroleum Co. ...		10/-	3/9-4/3
Schibai ff Petroleum, new Pref. (fully paid) s/s	690,000 s/s	(fully paid)	$1\frac{3}{4} - 1\frac{1}{2}$
„ „ new Ord.			15/0-16/0
Shell Transport and Trading	7,000,000	£1	$5\frac{1}{2} - 5\frac{3}{4}$
„ „ „	3,000,000 Pref.	£10	10 $\frac{1}{4}$ -10 $\frac{1}{2}$
Spies Petroleum Co. ...	750,000	10/-	23/6-24/6

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	749	752
Caspian Society (Issue 1910) ...	1,000	3,400	3,425
A. I. Mantasheff & Co. ...	250	770	775
Nobel Bros....	5,000	20,550	20,650
Nobel Bros. (Issue 1912) ...	250	1,052	1,056
Russian Naphtha Society ...	100	312	314
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	278	281
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co ...	—	390	395

SCOTCH PRICES.

Supplied by Messrs. MACLEAN & HENDERSON, Stirling.

Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	37/0
„ 6% Cum. Pref.	100,000	£10	£11 $\frac{1}{4}$
Burmah Oil, Ord. ...	1,100,000	£1	74/9
„ Pref. ...	250,000	£1	25/10 $\frac{1}{2}$
Dalmeny Oil Co., Ord. (£7 pai ³) ...	37,800	£8 10s.	85/0
„ 5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192. 10s.	10s.	6/7 $\frac{1}{2}$
Mexican Eagle Oil, Ltd., Non. Cum. Pref. ...	\$8,500,000	\$10	44/3
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	35/9
„ Pref. (£1 paid) ...	100,000	£1	22/6
Premier Oil Ord. ...	2,300,000	£1	6/6
Pumpherstons Min. Oil Co., Ltd. Ord. (17/- paid) ...	110,500	17/-	5 $\frac{9}{16}$
„ 6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	6/9
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	71/6
„ „ B " Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).
Dordtsche Petroleum Industrie My., Ord. ...	Aand 185
„ „ Pref. ...	„ 186
Royal Dutch Petroleum Co. ...	„ 636
Moeara Enim Petroleum Maatschappij ...	„ 244
Perlak Petroleum Maatschappij ...	„ 44
Sumatra Palembang Petroleum Maatschappij ...	„ 234
Zuid Perlak Petroleum Maatschappij, Pref. ...	„ 45
Tarakan Petroleum Maatschappij ...	„ 118

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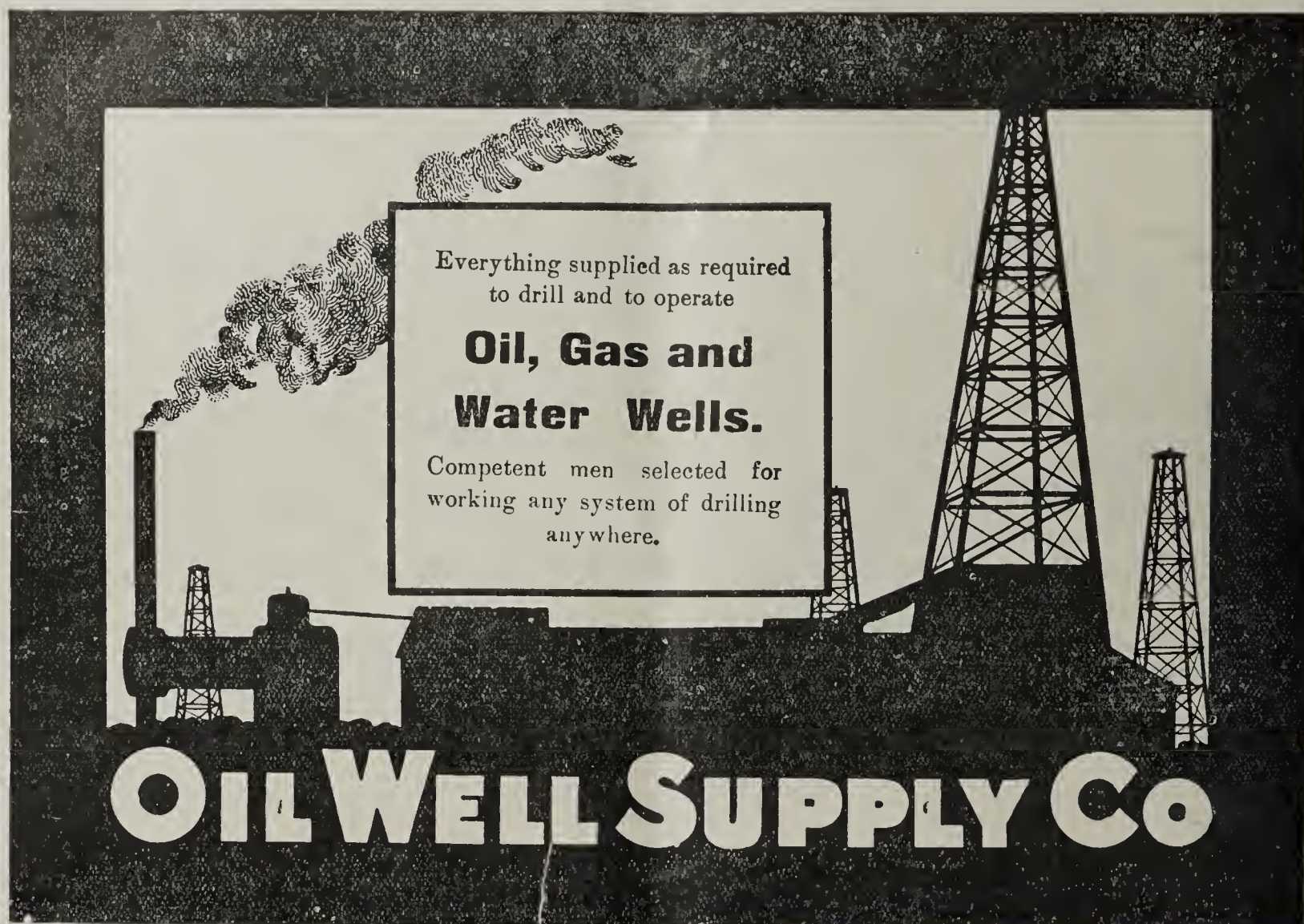
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CHIEF CONTENTS.

	PAGE
Editorial Notes	435
Production of English Companies in Russia	436
The Kern River Oilfields of California, Ltd.	437
Notes from the Oilfields	439
An Economical New Method of Consuming Liquid Fuel	440
Latest Quotations of Petroleum Shares	442
England's Increasing Petroleum Trade	445
Classified Imports into the United Kingdom	446
The Kansas-Oklahoma Oil and Refinery Company, Ltd.	447
Taranaki (New Zealand) Oil Wells, Ltd.	448
The Holland Drilling Company's "Ideal" Rig	448
The Petroleum and Natural Gas Resources of Canada	449
American Petroleum Production during 1912	451
The Development of Galicia's Petroleum Industry	453
Home and Foreign Market Intelligence	455
Imports of Petroleum Products	456

— THE —

PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, OCTOBER 25TH, 1913.

ENGLAND'S INCREASING PETROLEUM TRADE.

THE importance of England's trade in petroleum products is ever increasing, and signs are not wanting to show that this consistent expansion has by no means reached its zenith. The growing importance of the trade is but the natural sequence to the steady enlargement of the field of consumption of petroleum products, for no matter in which direction we look, we have conclusive proof that in the future even more than in the past, petroleum products will be consumed upon a much greater scale and in a greater variety of directions than has hitherto been the case.

The total import trade in crude and refined petroleum during 1912, so far as the United Kingdom is concerned, reached approximately 345,000,000 gallons, and for the three quarters of that year amounted to 278,000,000 gallons. As showing the continuous expansion, however, the total imports into these islands for the first nine months of the present year have been about 315,000,000, or nearly 40,000,000 gallons in excess of the corresponding period last year. It is safe to say that never before has there, from one year to the next, been such a substantial increase in this country's receipts of petroleum products—an increase which would have been all the more marked had it not been that export trade from the various producing countries is carried on to-day with great difficulty owing to the absence of available tankers.

The increase in the dimensions of our petroleum import trade is all the more remarkable, when it is recollected that this present year's record has been achieved by a steady development in the consumption of petroleum products all round, for in each class, with but one exception, and that being gas oil, the imports have respectively increased.

Let us take first the case of illuminating oil. A few years ago it was the general impression that the illuminating branch of our petroleum trade had reached the height of its popularity, for it will be remembered, refined oil for lighting purposes was gradually giving

place to other forms of light. Electricity had become exceedingly popular with all classes, while gas to a great extent robbed the oil trade of some considerable part of its former customers. Thus it was that our illuminating oil imports commenced to fall off in volume. Refined oil, however, was soon claimed as a cheap and very effective source of power and therefore the decline in its use for illuminating purposes was rapidly counter-balanced by its extended utilisation for power purposes. Nor have we yet witnessed the time when kerosene has claimed all its adherents. Slowly, but surely, means are being perfected whereby it will be more widely used for internal combustion engines; in fact, there are many students who confidently assert that in a year or two kerosene will take the place which is held to-day by the lighter products of petroleum.

But be that as it may, the consumption of illuminating oil is increasing in a marked degree, and during the first nine months of the present year we have imported 15,000,000 gallons more kerosene than for the corresponding period a year ago, and this in spite of the fact that ruling prices are appreciably higher than they were twelve months ago. For this product we are becoming more and more dependent upon America, whose exports to the United Kingdom have been considerably strengthened by the addition of Mexico as a country of supply. As to the continental fields, Roumania is slowly gaining ground in this respect, while our imports from Russia are declining, this, no doubt, being primarily due to the limitation of Batoum's export trade, owing to the need for the products in Russia itself.

Motor spirit now stands second in volume of our petroleum import trade, and here the increases recorded during the past nine months, when compared with the figures for the similar period of 1912, are very significant as showing the trend of the trade in this article. So far this year our motor spirit imports have reached 80,000,000 gallons, as compared with a little over 60,000,000 for the nine months of last year. The substantial increase has been contributed to by all the producing countries, though the vast bulk still comes from the prolific fields of the Dutch Indies. America is steadily increasing her shipments to this country, while Russian motor spirit is coming on the market in considerable quantities, the amount imported this year so far being more than three times that for the nine months of 1912.

In regard to liquid fuel, last year Roumania and America supplied the total, and in equal proportions, but this year we have imported double the quantity, and this has been drawn from Mexico and Roumania almost exclusively. In fact, Mexico to-day supplies quite one-half of our liquid fuel shipments.

Lubricating oil imports are also increasing, America holding the greater portion of this trade. Recently, however, Russia is coming forward with much larger quantities, but, on the other hand, Roumania, which last year sent several substantial shipments, has now dropped altogether out of the list, though, we hope, only temporarily.

In a word, England's petroleum import trade was never in more flourishing condition than it is at the present time.

THE "SHELL" COMPANY ACQUIRE MORE CALIFORNIAN PROPERTIES.

Special to the "Review."

LOS ANGELES, October 16th, 1913.

I UNDERSTAND upon official authority that the Shell-Royal Dutch interests have recently concluded negotiations for the acquisition of additional oil properties in the Californian field. This latest deal involves the taking over of the Turner and the W. K. Oil Companies, which are affiliated concerns operating on the east side of the Coalinga field. These companies possess nearly 700 acres of high-grade oil-producing territory, and each company has already a substantial production of crude oil.

The announced price which is involved in the deal amounts to \$5,000,000, and the terms of payment are, I further learn, similar to those laid down in the recently-announced California Oilfields transactions—part cash and part shares in the "Shell" Transport and Trading Company.

The Turner and W. K. Oil Companies are recognised as among the best concerns in California, possessing, as they do, the most valuable oil from the refining point of view. The W. K. Company has a capital of \$500,000, upon which it has paid about \$250,000 in dividends; while the Turner concern is admittedly exceedingly prosperous. I also gather that the "Shell" representative in California is endeavouring to conclude further important deals.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO OCTOBER 20th, 1913.

[ALL RIGHTS RESERVED.]

IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Oct. 13.	From Jan. 1.	Since Oct. 13.	From Jan. 1.	Since Oct. 13.	From Jan. 1.	Since Oct. 13.	From Jan. 1.	Since Oct. 13.	From Jan. 1.	Since Oct. 13.	From Jan. 1.	Since Oct. 13.	From Jan. 1.	Since Oct. 13.	From Jan. 1.
Belgium ..	250	250	13,790	597,873	—	—	—	—	15,750	36,576	—	120	—	4,910	29,790	650,723
Canada ..	—	—	—	7,040	—	48,850	—	—	—	—	—	—	—	—	—	55,890
Dutch Indies ..	—	—	—	—	—	—	—	—	945,000	34,513,450	—	299,497	—	—	945,000	34,812,947
Germany ..	10,050	208,220	27,810	2,786,200	—	600	—	159,710	51,640	51,640	—	400	—	4,610	89,590	3,211,380
Holland ..	—	—	280	9,210	—	—	—	—	5,000	6,298,340	—	—	—	590	5,280	6,308,140
Mexico ..	—	5,752,350	—	—	—	—	—	1,049,790	—	1,528,800	13,370	12,812,160	—	—	13,370	21,143,000
Roumania ..	—	16,509,357	—	—	—	—	—	—	—	2,981,830	—	9,027,510	—	—	—	29,668,727
Russia ..	—	9,844,560	6,290	11,402,290	4,020	393,390	—	1,150,000	—	11,889,350	—	—	—	—	10,310	33,529,590
U.S.A. ..	4,440,360	96,038,066	1,392,020	39,506,124	7,260	210,180	49,700	49,883,810	—	19,957,470	1,847,750	4,684,080	8,480	798,055	7,745,570	211,077,785
Other Countries	—	80	1,430	123,330	—	480	—	—	—	4,859,240	59,250	62,870	—	1,460	60,680	5,047,460
	4,450,660	128,352,783	1,441,620	54,432,067	11,280	653,500	49,700	52,243,310	1,017,390	82,116,690	1,920,370	26,886,667	8,480	809,625	8,899,500	345,505,642

The Kansas-Oklahoma Oil and Refinery Company, Ltd.

AN ENCOURAGING START.

THE first ordinary general meeting of the Kansas-Oklahoma Oil and Refinery Company, Ltd., was held on Thursday at the Baltic Exchange, 24, St. Mary Axe, London, E.C., Mr. Richard Robinson (acting-chairman of the company) presiding.

The Chairman, in moving the adoption of the report and accounts, said: From the report and accounts now before you you will, I think, agree that the profits shown in the holding companies of £69,000 are most satisfactory, especially in view of the fact that this is our first year, and that, as is always the case in these matters, when you have purchased a going concern, there is always some delay in the work owing to changes of policy and control. We have avoided the main difficulty in our case, because we have been able to retain the services of the capable manager of the refinery, Mr. D. W. Moffitt, a man of the very highest character, and for the time occupying the responsible position of president of the Western Refiners' Association. Mention was made at the statutory meeting of an advance made to the vendors on account of purchase consideration and also of a mortgage on the refinery of £6,000. These have been paid off and the properties now stand in the possession of the company without any encumbrances or charges upon them. Referring first to our refinery, this has been kept quite up to date, additional tankage has been provided, and further storage tanks for various purposes are in course of erection. When our latest tank of 55,000 barrels capacity is completed we shall be able to cope with the increasing business. The pipeline has been extended in various directions, and the amount of oil pumped through same to the refinery for the twelve months was about 600,000 barrels. Gravity lines for collecting production from new leases have been added, whilst the pumping plant at the main station has been duplicated. Regarding the field production, this amounted in the past year to 220,000 barrels, and would have been considerably more had we been able to start our drilling programme earlier. During the last seven months which we have been able to work thirty new wells have been sunk, of which twenty-five are producing. While on the subject of production, I should like to point out that we cannot gauge the success of our field operations merely by the quantity of oil produced, because during the past year we have drilled some excellent gas wells, and are obtaining a substantial revenue from the sale of gas, also we are now supplying gas from our own wells to the refinery as fuel, which is resulting in a considerable saving over the use of fuel-oil.

You will note that the directors have written off the whole of the drilling expenditure of £9,027 for the year, despite the fact that our advisers have informed us that the expenditure has been on the whole a profitable investment. This is undoubtedly unusual in the case of oil-producing companies, but, as the authorised expenditure in drilling this year will be largely in excess of this sum, in view of the fact that during the taking over of the property the production was allowed to decline somewhat, the directors have judged it wisest for the future prospects of the company to give additional reasons for looking upon it as a thoroughly sound investment, to carry none of this expenditure into capital account this year. The price of crude oil continues to rise, and has every appearance of still advancing. With regard to the Mutual Oil Company, the selling organisation in which this company holds a third of the ordinary shares, their financial year does not end till December 31st, so that we have not been able to bring into this balance sheet any profit from this source. I might add, however, that we are informed that the business they are doing is large and profitable. They have a large number of distributing stations throughout the neighbouring States, which are an important outlet for several of the products of our refinery. It may be asked, with profits exceeding £69,000, why are we not paying a larger dividend, but your directors think you will agree with them that a conservative policy is best, and more especially in the first year of our business. Next year a sinking fund of £12,000 will be required to be set apart after payment of dividends, to protect the preference shareholders, by providing in a series of years the whole of the preference capital subscribed. You will therefore see that we are virtually a year in advance of our promise in this respect. Over and above this, the extensive

drilling programme we are initiating will necessitate considerable expenditure. For this, we trust, we shall be fully compensated, more especially with oil still rising in price. It remains for me to say something of the prospects of the business. I visited your properties in June this year, and spent a fortnight in the various departments of the business. There is no doubt that the company is possessed of a very complete and satisfactory set of properties—field, pipelines, and refinery. One most important matter requires to be borne in mind, and that is the character of the producing territory in which our leases are situated. This is not a territory in which large and sensational flows are at all frequent, but it is long, lasting, and will go for many years. In this respect Oklahoma is like Pennsylvania. I visited certain territories in this latter State more than thirty years ago. They were producing then, and they are producing still.

The sale of petroleum products is admittedly a fluctuating one, both as regards demand for various products and price, but there is no reason to doubt that at the moment, and probably for some time to come, the production of refined products of petroleum will not be equal to the growing demand for them. The demand for refined petroleum as an illuminant is undoubtedly on the decline, except in the East, but its use for power purposes, and as a substitute for petrol, especially in heavier carburettors, is rapidly on the increase. There seems to be no diminution in the demand for petrol, and judging by the large production of some of the American manufacturers, and the starting of new important motor businesses, it is likely very considerably to increase. It is the unfailing resource of many to point to the extension of the use of oil as fuel, and to the enormous demands which are being talked about by those who have very little knowledge of the requirements of the various Governments of the world, and other large consuming agencies. This is not available for us except to a very limited extent; we have too valuable a product to sell as a fuel for burning under furnaces. It is true we are at the moment obliged to do so, but your directors look to the immediate erection of a plant to turn this fuel oil into heavy motor spirit, lubricating and cylinder oils, and wax, as a necessary equipment of this business.

The directors have all through the year had the advantage of the services of Mr. W. Guy W. Radford, who knows the business of the company thoroughly, and has given an immense amount of time and thought to the whole negotiations and affairs of the company. The directors are very much strengthened by his acceptance of the unfortunate vacancy which has occurred, and we hope you will confirm their unanimous choice.

Mr. W. T. H. Radford seconded the motion.

Mr. Abrahams asked why nothing was set aside in the balance sheet by way of provision for the £12,000 that they had to earmark every year to redeem the preference shares. The chairman had also suggested issuing the balance of the shares. If those were to be preference shares he did not see how it was to be done, as it seemed to him that the whole of the 300,000 preference shares had already been issued.

Mr. Davis said that three classes of business were mentioned in the original prospectus, and he understood that gas had been found in large quantities on some of their properties. Could the shareholders be given any forecast as to the income they were likely to derive from that source in addition to what was being derived from oil?

Mr. W. Guy W. Radford, in reply, said that he thought the gentleman who had raised the point as to the issue of the balance of preference shares was labouring under some misapprehension. If he would refer to his balance sheet he would see that the authorised capital of that class was 330,000 shares of £1 each. Of those they had only issued 300,000, and as 982 had been forfeited they had the number available for issue set forth in the report. With regard to the sinking fund of £12,000, there was no obligation to provide that until 1914.

Mr. C. M. Hunter said with regard to the extraction of gasoline from the gas which they obtained on their properties, the profits derivable from that process were claimed to be enormous, running into thousands per cent. They were not making anything like that yet, and he did not think they would for some time to come. When they acquired their property there were two plants, one on the field, and one at the refinery, but the vendors found it very difficult to prove that they were making any profits from either of those plants. The shareholders would, however, be pleased to hear that during the past year—thanks to alterations which had been made—the field plant was working in an entirely satisfactory manner, and was furnishing a considerable quantity of gasoline. He thought they were one of the few companies in Oklahoma that were actually earning profits from their gasoline plant, and he attributed that very largely to the very complete installation they had for pumping their product to the refinery and being able to handle it there to the very best advantage.

The report was unanimously adopted.

On the motion of the Chairman, seconded by the Hon. Stuart Pleydell-Bouverie, the appointment of Mr. W. Guy W. Radford to fill the vacancy caused by the death of the late chairman, Major W. Bridges Webb, was unanimously confirmed.

TARANAKI (NEW ZEALAND) OIL WELLS, LTD.

Bell Block Bores—Latest Cables—Position at New Plymouth.

THE ordinary general meeting of the Taranaki (New Zealand) Oil Wells, Ltd., was held on Thursday, at Winchester House, Old Broad Street, E.C., the Right Hon. the Earl of Ranfurly, (L.C.M.G. (chairman), presiding, there being also present: Mr. A. L. Horner, K.C., M.P., Major Alexander, Mr. John Brailsford (directors), and Mr. J. D. Henry.

The Chairman, in moving the adoption of the report, said they had carried out the objects set forth in the prospectus, namely, the erection of an up-to-date refinery, the sending out of a latest-pattern rotary drill, the purchase of a percussion drill, and the starting of drilling operations at three bores. As far as the rotary drilling specialists were concerned, they had not been so fortunate; but, although many delays had been caused by those who were sent out, and who no longer remained in their service, they were now, with their own people in New Zealand, successfully carrying on the work with the new plant. Their present drilling proposition carried out fully the development suggested in the prospectus. As to the Bell Block bores, which were some seven miles from their present producing wells, and should determine the value of this oilfield, the latest information from New Zealand, received by cable on the 15th inst., showed No. 1 to be at a depth of 3,500 ft. and No. 2 at 3,000 ft. The rotary drill, which only started work at the present bore at the beginning of August, was, they understood by the same cable, down to 1,800 ft., while the company's No. 5 well, which was producing within a short distance of it, was 2,500 ft. in depth, so that they hoped any day to hear of oil being struck.

But it was to the refinery they looked as the chief part of their business. This refinery, which was now in full work, and completely up-to-date with every known improvement, was capable of dealing with 10,500 gallons of crude oil per day, and had been so arranged that the capacity could be greatly enlarged, if necessary. The directors were not depending upon the company's own wells for this supply, but also on the wells now being sunk by the many companies that had been formed in their locality. The companies formed, or being formed, numbered upwards of a dozen, and there were at present four of them drilling, and the latest information on this subject, received by cable a few days ago, showed the depths reached to be: Bonithon, 1,920 ft.; Blenheim, 1,900 ft.; Phoenix, 1,480 ft.; and Huia, 800 ft. As there was no other refinery in New Zealand there should be no difficulty in obtaining the whole of the production of the new companies. Remarks had been made to the effect that they had built the refinery without having the oil with which to supply it, and that they were not justified in putting up such a refinery. The prospectus, however, especially mentioned this refinery as one of the chief objects of the company, and why? Because at the time there were nearly 500,000 gallons of crude oil that had come from the wells that was practically unsaleable—anyhow at a remunerative rate. It should be clearly understood that the refinery purchased all oil, and that the calculations made did not include any free from their own wells. With regard to the sale of products of the refinery, he was pleased to say that sales were now being made to customers throughout New Zealand, and they were informed by their New Plymouth office that the company's spirit had given the greatest satisfaction to motor-car owners. Orders for their other products had also been received by their New Plymouth office.

The directors considered that it was absolutely necessary to issue more shares, and they were making arrangements for so doing at the present time. The necessity for further capital arose more or less through all these new companies that were being formed, as pipelines would have to be put down to connect the wells with the refinery. New Plymouth was developing largely, and the company must be in a position to meet all requirements. It should also be understood that in opening up a big business in the sale of oil and wax and other products it was necessary to have funds in hand for trading purposes.

The people in New Zealand, who probably knew far more about it than those on this side, had had sufficient faith in this undertaking to take about 173,000 shares in the company, whilst the British public, not knowing the ins-and-outs of the matter, only subscribed for just over 11,000.

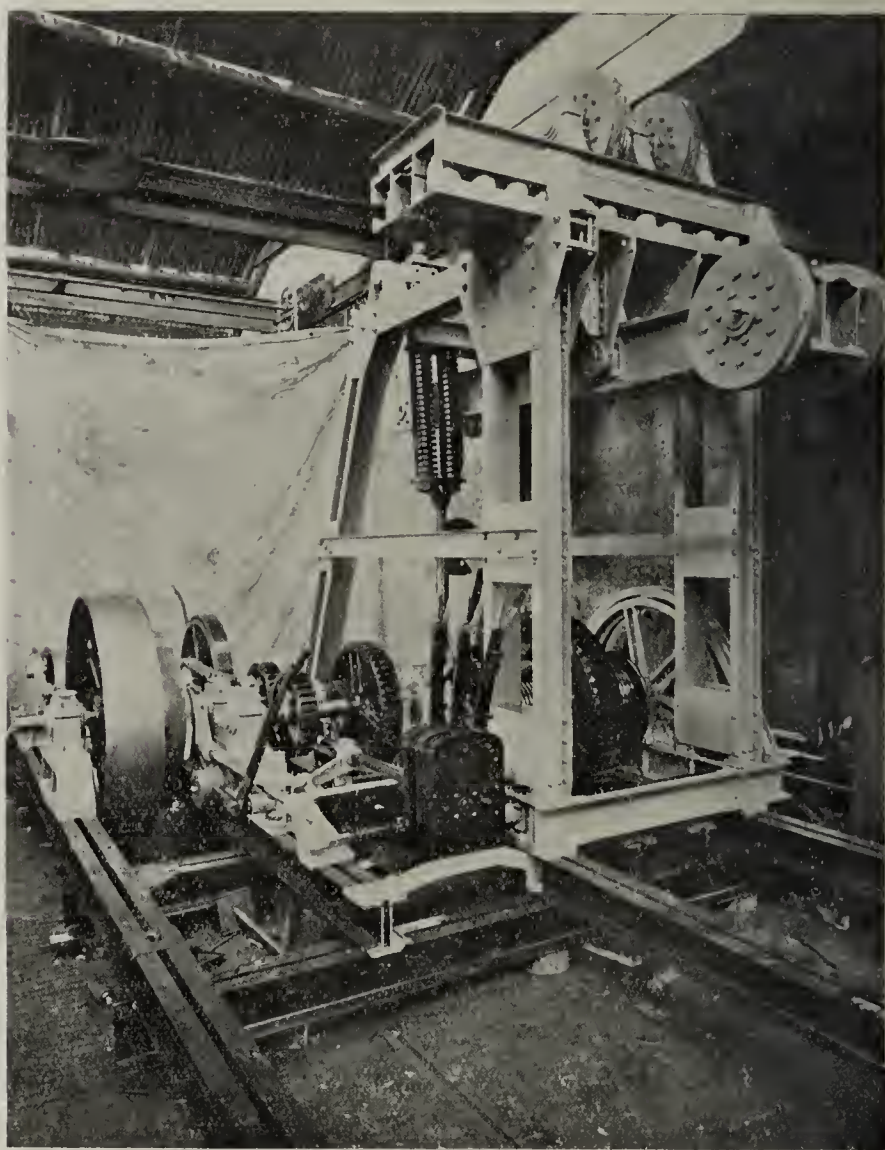
The directors had hoped to have been enabled to announce a strike of oil, as it was daily expected; but, unfortunately, he could only announce strikes of good gas. At the same time, gas would probably not be there unless oil was in the vicinity, and they were at the present moment harnessing these gases to work the refinery without having to pay for coal or use their crude oil.

Mr. Joseph Brailsford seconded the motion, which was carried unanimously.

THE HOLLAND DRILLING COMPANY'S "IDEAL" RIG.

THROUGH the courtesy of Mr. John Wells, consulting engineer, Cross Keys House, 56, Moorgate Street, London, E.C., we have been favoured with the attached illustration of the "Ideal" rig, manufactured by the Holland Drilling Company, which concern, it will be remembered, is represented in England by Department C, of Mr. Wells' firm.

The Holland Drilling Company, who are boring contractors for the Dutch Government, have made a special study of the machines requisite for speedy and economical boring work, and as a result of the experience gained by them in the oil and coal fields of the world, they are now making a speciality of their "Ideal" rig, which, as its name implies, is about the last word in perfect drilling apparatus. The "Ideal" is a triple combination drilling rig, built specially for the company's contracting work in Europe. It is manufactured in two patterns, A and B, the former



being for depths ranging to 3,000 ft. and the latter for strata up to 5,000 ft. deep.

Each rig is arranged for either mud-flush rotary, mud-flush percussion, pole drilling or cable drilling, and recent operations in the Argentine have proved that the "Ideal" is capable of showing drilling speeds up to 200 ft. per working day of ten hours. Taking an average the Holland Drilling Company complete a well to 5,000 ft. in from six to eight months, while for a depth of 3,000 ft., from three to six months will suffice. One decided advantage of the type of rig here illustrated is that it is possible to change over from one system of boring to another in a few minutes—here all up-to-date methods of drilling are combined in the "Ideal" combination.

For shallow depths the company have their portable rigs, suitable for borings up to 2,000 ft., while for prospecting work they have a special hand plant which may be used for flush drilling with poles, ordinary poles and wire line for depths up to 300 ft.

Mr. Wells will at any time give full details of the Holland Drilling Company's specialities.

The Petroleum and Natural Gas Resources of Canada.

By Messrs. FREDERICK G. CLAPP and L. G. HUNTLEY.

*An Informative -
Summarised - -
Report. - - -*

EVER since the discovery of petroleum in commercial quantities in America, the number of uses of both the crude and refined products have been growing, until at present the production is far from sufficient to supply the demand. In a work such as the present one, it seems essential to give an outline of the uses of petroleum, in order to make clear what may be done by the industry in meeting the present demand; consequently this consideration will be taken up in a special chapter. It will include a discussion of the growing demand for gasoline, and of the methods used for extracting this substance from certain types of natural gas in the oil-fields. Natural gasoline plants are in frequent use in the United States, but are very rare in Canada.

It may not be generally understood that a great difference exists in the character of petroleum in various parts of the Dominion, and between the Canadian oils and those of other countries. Most oils are suitable for special purposes, and consequently the pipe line companies have classified them into a number of grades depending on the character and demand in different fields, and have set a price for each particular grade. This price is changed from time to time according to the changing supply and demand.

While the oil business has very generally been viewed by the public as a gambling enterprise, and while many companies have conducted it as such, we are now able to say that the days of taking great chances are past. A careful study of local conditions will now enable an expert to judge to a considerable extent what may be expected of any particular property. While it is not possible to absolutely predict whether a well drilled at a particular point will produce oil, we can nevertheless gain a fair knowledge of the conditions prevailing under a property of any size, and for this purpose a detailed knowledge of the geology is necessary in all cases. Geological details, where they are known, are given in the special chapters describing the different fields, but in addition the report will summarise the geological conditions common to all the fields, explaining the relations of the production to different types of geological structure.

Various methods are in use in different parts of the country by which companies and individuals acquire the right to drill on prospective oil and gas land. The methods differ mainly on account of the various ownership conditions in the different provinces; and in addition there is much difference in the form of lease within every particular province. The report will outline the various methods and conditions of acquiring and holding territory.

Many different methods of drilling are in use in different parts of the world, and a discussion of these is absolutely necessary in order to give a clear understanding of the expense of operating. While a full discussion

would fill many volumes, enough will be said to meet the needs of the industry in Canada. This chapter will also include a discussion of the cost of drilling, and of the differences between drilling by contract and drilling done directly by the operating company in various fields.

In any field it is important to know what type of drilling rig is used in any other particular field. The particular fuel used in drilling must be known, the methods and size of casing, and also the water problems which will be encountered are important. A driller also wishes to know what time will presumably be consumed in drilling the well, what fishing tools are practicable, and what sort of packers, liners, strainers, and other accessory equipment are common. It is also important, in each particular field, to know whether the wells are generally shot.

Since a great many different methods exist for storing petroleum and for transporting it to the refineries or to the markets, and since these methods are not commonly understood except by people engaged actually in the petroleum business, a brief chapter will be devoted to the methods of transportation and storage. This will also include a description of the methods used in transporting natural gas to distant municipalities.

Much ignorance exists among those not associated with the natural gas industry, as to the methods by which gas is transported and the conditions prevailing; consequently this report will give a short chapter on the volume of gas wells, their measurement and the methods used in determining the pressure.

It is planned to take up every oil and gas field in the Dominion, and individually to describe its geographic, topographical, and geologic situation. The character and amount of the production, with a brief history, the depth of wells, and drilling methods will be given in all cases.

A feature of the oil and gas business, which is not commonly appreciated, but which is nevertheless very important, is that accurate records should be kept, not only of the depth of the sand and of the amount of production, but also of the exact depth at which each formation is encountered in drilling the wells, the depth at which they were cased, whether particular seams of water, oil, or gas were encountered, and such other information as may be valuable to a driller in sinking other wells in the same region. While the importance of such considerations may not be apparent in all cases, it is possible to say that, when the records throughout a particular field are collected and correlated by an expert, they never fail to give information of future value, which can not be gained in any other way. The writers of this report, having visited all the fields in the Dominion, have cause to regret that records as a rule are not kept carefully, accurately, or systematically,

although certain companies must be excepted from this statement. It is hoped there will be early improvement in this matter.

The writers are firm advocates of the movement for conservation of natural gas. By this should be understood conservation in its broadest sense, including prevention of actual waste, the abolition of wasteful methods of utilisation, and the passage and enforcement of such laws as will assure the wisest possible utilisation of gas for the best interest of all the people. While the waste of gas in Canada has not been as great as in the United States, this circumstance has been largely due to the fact that fewer fields have been developed. With the discovery of gas in large quantities at both ends of the Dominion, we should take care that the laws for its development and utilisation are all that can be desired.

An exhaustive bibliography has been prepared on the oil and gas developments of the Dominion, and this will form a part of the report. The bibliography is also an index to all literature on the subject so far as known.

Natural gas development in Alberta, which was started at Medicine Hat in 1891 by a well drilled in search of coal, has grown to large proportions within the past two years. The principal centres of production at present are the town of Medicine Hat and its environs, which produce from 25,000,000 to 30,000,000 cubic ft. per day, and the Bow Island district, situated 40 miles west of Medicine Hat, which produces about 75,000,000 cubic ft. per day. From the latter district a pipe line has been laid for the purpose of supplying the city of Calgary, 160 miles distant, and 14 other municipalities along the route. No other gas of importance has been developed in southern Alberta.

In the Medicine Hat field, the gas is found in several formations, at depths ranging from 200 to 1,300 ft. The principal producing sand, however, is encountered at from 1,000 ft. in depth. The rock pressure is about 560 lbs., and the volumes of individual wells are between 1,000,000 and 7,000,000 cubic ft. per day.

In the Bow Island field, the important productive stratum is encountered at about 2,200 ft. in depth, and is generally correlated with the Dakota sandstone, although Dr. Eugene Coste believes it to be of Niobrara age. There are fourteen producing wells in this field, all owned by the Canadian Western Natural Gas, Light, Heat, and Power Company, Ltd. The initial production ranges from 2,000,000 to 24,000,000 cubic ft. per day per well, with a rock pressure of 800 lbs.

Compared with the cost of drilling in the eastern and mid-continent fields, the expense in Alberta is very high. In the Medicine Hat field, the drilling of gas wells is contracted for at prices ranging from \$6.50 to \$8 per foot, depending upon the diameter at which the hole is finished. In the Bow Island field, the first wells cost as much as \$20,000 each, and the present outlay is in the neighbourhood of \$16,000 for a 2,200 ft. gas well.

Gas is sold for domestic consumption in the city of Medicine Hat for fifteen cents. per 1,000 cubic ft., and for manufacturing purposes at five cents. per 1,000 cubic ft. The city has, however, made a number of contracts for supplying gas to manufacturing plants

free of cost for a five-year period. This appears to be very short-sighted policy, in view of what is now known regarding the length of life of gas-producing territory when drawn upon freely. Moreover, the value of natural gas as a fuel is too great to justify its waste by being given away. The rates for natural gas in the cities of Calgary, High River, Lethbridge, Macleod, and other towns situated on the western Canada pipe line, are fixed at twenty cents. per 1,000 for manufacturing and thirty-five cents. for domestic purposes.

Owing to the high cost of operating and to several other conditions, most of the drilling is now being done by several large companies and by municipalities, the latter for advertising and local promotion purposes. The wildcatting to date has failed to discover any extensive fields besides those mentioned. These are, however, believed to be capable of great extension.

The operations which were commenced in the Pincher Creek and South Kootenay Pass district in 1902, have resulted in the drilling of 17 or 18 wells up to the present time, ranging in depth from 200 to 1,900 ft. While two of these gave evidence of possibly proving small oil producers if they had been properly handled, the remaining wells never produced more than about a barrel a day at their best. In the summer of 1912, two companies were deepening old wells in a more or less desultory way, but no additional production had been encountered. Some wells are still rigged for pumping, however.

The seepages which occur in this district, and which led to the drilling and to the usual accompanying boom and stock-selling period, exude from what Dr. Dawson describes as a somewhat "anomalous occurrence of petroleum" in rocks of Cambrian age. It remains an occurrence of scientific interest only, since, even if oil had ever been found in quantity in rocks of this age, the greatly disturbed and faulted condition of the Pincher Creek and South Kootenay rocks must have precluded the possible existence of an oil reservoir of any importance.

The small quantities of petroleum produced were of high grade, being about 42 degrees Baume, and contained a large percentage of light oils, but no sulphur. It is an interesting scientific fact that this and other "freak" fields commonly yield high grade oil.

The immense seepages of tar and petroleum residue known as the "tar sands," which occur along the banks of Athabaska river, and between that river and the Peace River country, have proved an alluring basis for oil prospecting, notwithstanding the belief of geologists who have visited the region, that oil would not be encountered near the outcrop of these sands, and furthermore, notwithstanding the fact that no petroleum in commercial quantities has ever been found in rocks of similar age to those which occur below the Devonian limestone in this region; nevertheless, drilling has been active in the vicinity of Fort McMurray and Fort McKay, and in the intervening territory along the Athabaska river. Several of the wells, which have been sunk from near the top of the Devonian limestone, and at the base of the Dakota or "tar sand," have encountered small pockets of thick tarry oil in the limestone; but up to the present time no oil has been recorded in commercial quantity in this north country. As an example of the futility of some of the efforts, it may be said that in June, 1912, one well at Fort McMurray was drilling in the Laurentian formation underlying the Devonian limestone.

(To be continued.)

American Petroleum Production during 1912.

*An Exhaustive
and Important
Bulletin.*

Dr. DAVID T. DAY'S OFFICIAL REPORT.

(Continued from page 414.)

PENNSYLVANIA.

In Pennsylvania an unusually good well was drilled in June, 1911, by Potts Bros. & Fife, on the Stewart Park lots, in Canonsburg, on the east edge of Washington County. Over 30 wells were drilled on town lots as rapidly as they could be put down, the best yielding about 600 barrels a day. By the spring of 1912, however, the pool had declined very much in spite of efforts to extend the producing area farther north. In Allegheny County, several wells, yielding as much as 25 barrels a day, were drilled in the neighbourhood of Pine Creek and in the Perrysville pool. In Butler County, the increased value of old oil wells, due to the rise in price of oil, was made evident by the purchase of 300 acres of land, including 24 producing wells, at a price that approximated \$2,250 per barrel of daily production. This is the highest price which has been paid in this region in 20 years, and is evidence of the great "staying qualities" of these wells. Interest in the county was also stimulated by the striking of a 100-barrel well on the Dodds Farm, in Penn Township. Another 100-barrel well was obtained in the old Bristoria pool, in Greene County.

In 1912, Pennsylvania produced 7,837,948 barrels of petroleum; in 1911, 8,248,158 barrels were produced, a decrease in 1912 of 410,210 barrels, or 4.97 per cent. In 1911 the decline was 6.21 per cent.

The following table shows the production of petroleum in Pennsylvania and New York, 1908-1912, by months:

PENNSYLVANIA.					
BARRELS.					
Month.	1908.	1909.	1910.	1911.	1912.
January	782,683	759,178	721,627	697,290	562,665
February	718,905	704,391	621,467	637,719	575,180
March	835,990	822,600	851,225	722,755	686,178
April	803,590	784,155	766,700	701,489	699,856
May	805,930	818,359	759,585	765,470	728,127
June	819,020	820,155	790,520	704,082	657,545
July	806,003	792,327	723,646	668,324	678,789
August	781,988	786,563	763,273	704,627	675,848
September	786,963	774,750	720,165	661,775	634,114
October	781,001	758,779	708,453	690,360	686,184
November	710,246	765,504	678,132	622,543	610,314
December	792,006	712,642	689,869	671,724	643,148
Total	9,424,325	9,299,403	8,794,662	8,248,158	7,837,948

NEW YORK.					
Month.	1908.	1909.	1910.	1911.	1912.
January	98,776	95,270	90,027	83,160	64,850
February	87,119	89,526	71,699	73,007	63,080
March	99,948	100,008	101,406	83,226	73,371
April	100,511	96,249	92,245	81,239	79,188
May	97,365	98,490	90,581	88,594	82,035
June	99,954	99,905	92,064	84,442	73,950
July	99,338	96,247	89,457	75,885	75,875
August	95,754	93,900	89,650	81,368	74,663
September	96,299	93,583	86,428	76,263	68,884
October	98,556	90,382	86,659	78,469	76,766
November	89,345	91,058	79,519	70,101	68,045
December	97,163	90,279	84,103	76,761	73,421
Total	1,169,128	1,134,897	1,053,833	952,515	874,128

WEST VIRGINIA.

In West Virginia, the remarkable development in the Blue Creek pool, Kanawha County, begun in September, 1911, aroused greater enthusiasm than any other development in recent years. The first well was drilled by the Ohio Fuel Oil Company simply to protect a lease which was about to expire on the Bart-Schwartz land. A good gusher was obtained.

Next the Edwards Oil Company struck a 720-barrel gusher on the farm of the Graham heirs. Gushers of much greater size followed quickly, drilled by the Ohio Fuel Oil Company, the Hamilton Company, and others. It is interesting to note that in 1864, when drilling began at Burning Springs, in Wirt County, it extended up to Elk Creek to the mouth of Blue Creek. A Mr. Goddard also leased the present Blue Creek region but did not drill.

In 1912 the field extended rapidly north-east and south-west, until it attained a length of about 10 miles. In May its highest production was reached, 25,000 barrels a day, but wells were drilled so close together that a decline was inevitable, and by June 17th the production was estimated at 20,000 barrels, and twelve days later had declined to 16,000 barrels a day.

In July much new production was added, but the old wells declined so rapidly as to offset the increase, and production settled down to 15,000 barrels a day, by the middle of August to 13,000 barrels, and a month later to 8,500 barrels. By the middle of October it had increased slightly to 10,000 barrels, and at the end of the year there was a steady daily production of 8,000 barrels.

Meantime, the excitement caused by this unusual development, extended the drilling of the Falling Rock Creek pool and the Big Sandy district, both adjoining the Blue Creek pool. The former started with a 100-barrel well on September 21st, and the interest still continued at the end of the year. The oil comes from the Berea sandstone. The Big Sandy region obtained a gusher of 2,000 barrels a day late in October, which quickly settled down to 200 barrels a day; this came also from the Berea sandstone. There is a prospect of considerable production from various extensions of the Blue Creek pool, especially in Clay County and Lincoln County. Roane County was second to Kanawha in the interest aroused during the year. A 50-barrel well was obtained early in February, 1912. Late in the year the Spencer district was developed in the Berea sandstone, and wells yielding from 100 to 450 barrels a day were very common. Prospecting was active in the old Shinnston district, in Harrison County, and on October 5th a 500-barrel well was obtained half a mile north of Shinnston. Before the end of the year sufficient oil was obtained to extend the old Shinnston pool half a mile to the north, with wells which held up satisfactorily. Other wells which developed interesting prospects during the year in West Virginia are in Calhoun, Cabell, Boone, Gilmer, Ohio, Pleasants, Ritchie, Tyler, and Wetzel counties.

The State showed a marked increase in production in 1912, when 12,128,962 barrels of petroleum were obtained, an increase of 2,333,498 barrels, or 23.82 per cent. over 1911, when the production was 9,795,464 barrels.

In the following table is given the production of petroleum in West Virginia in the years 1908 to 1912, by months :

Month.	BARRELS.				
	1908.	1909.	1910.	1911.	1912.
January	697,040	735,379	1,026,438	814,743	694,619
February	700,103	722,045	935,252	800,712	801,699
March	770,689	851,002	1,050,163	881,172	983,502
April	779,089	833,432	962,657	810,661	1,018,955
May	823,144	829,833	1,001,746	882,093	1,153,945
June	870,289	870,909	1,018,694	832,920	1,172,331
July	864,877	904,745	984,813	787,171	1,174,367
August	815,242	923,438	1,020,317	838,922	1,190,552
September	803,139	950,188	976,220	773,024	981,052
October	795,539	997,295	935,166	795,687	1,013,980
November	739,605	1,016,738	906,521	757,029	918,313
December	864,420	1,110,088	935,084	821,330	1,025,647
Total	9,523,176	10,745,092	11,753,071	9,795,464	12,128,962

The quantity and value of petroleum produced in West Virginia from 1903 to 1912, inclusive, are shown in the following table :

Year.	Regular crude.			Lubricating crude.		
	Quantity. Barrels.	Value.	Price per barrel.	Quantity. Barrels.	Value.	Price per barrel.
1903	12,893,079	\$20,499,996	\$1.590	6,316	\$16,536	\$2.62
1904	12,636,253	20,557,556	1.627	8,433	26,225	3.11
1905	11,573,545	16,117,816	1.393	4,565	14,815	3.25
1906	10,111,647	16,138,811	1.596	9,288	31,482	3.39
1907	9,089,839	15,834,714	1.740	5,457	17,714	3.25
1908	9,519,875	16,902,968	1.775	3,301	8,897	2.70
1909	10,742,026	17,634,335	1.642	3,066	7,948	2.59
1910	11,751,018	15,717,796	1.338	2,053	5,748	2.80
1911	9,792,324	12,757,861	1.302	3,140	9,432	3.00
1912	12,126,137	19,919,952	1.643	2,825	7,769	2.75

KENTUCKY.

The influence of steadily rising prices stimulated drilling very greatly, and, aroused unusual interest in oil operations throughout the State. Efforts were persistent to extend the West Virginia field over into Lawrence County, Ky., with the result of developing several small wells with an average initial production of 10 barrels a day. This was increased by a well or two at 25 barrels. In October, the Little Blaine Creek district in this county was yielding 100 barrels a day, and the wells are good stayers. Pipe-line facilities were afforded during the year.

The greatest interest in Kentucky came from finding a 200-barrel gusher on July 3rd in Ohio County. The oil is of good quality, and was obtained at 1,800 ft. In October, two wells were obtained in Allen County at about the same depth. This stimulated much prospecting in Muhlenberg, Hopkins, Webster, and Logan Counties, in the western part of the State.

In Morgan County, besides the project of piping gas to West Liberty, the finding of a well flowing 50 barrels a day of light green oil from a depth of 2,000 ft. aroused interest. The wells in Wolfe County were obtained at slight depths, and active preparations were made to extend the drilling to the horizon of the Berea sandstone. The Wolfe field was extended 4 miles to Stillwell Creek.

The decline in prodnetion, which was quite evident in 1910 and 1911, changed to the slight increase of 2.52 per cent., or 11,910 barrels, in 1912, when the production of petroleum rose to 484,368 barrels, against 472,458 barrels in 1911.

Month.	BARRELS.				
	1908.	1909.	1910.	1911.	1912.
January	60,781	59,799	40,984	33,237	38,425
February	60,168	56,355	35,795	31,151	37,723
March	59,336	63,085	41,006	37,910	40,923
April	63,283	55,681	39,907	35,484	37,375
May	65,927	57,065	43,055	42,906	44,967
June	60,127	53,522	44,239	38,590	40,311
July	60,150	55,414	40,009	42,237	44,997
August	60,533	54,777	40,699	44,087	40,866
September	60,137	54,221	41,017	44,356	39,146
October	55,385	46,330	35,822	41,556	38,484
November	59,643	41,772	29,144	40,818	40,000
December	62,297	40,995	37,097	40,207	41,151
Total	727,767	639,016	468,774	472,458	484,368

In Tennessee, drilling was active in many parts of the State, especially in the neighbourhood of Franklin, where, in addition to a considerable yield of natural gas, there is some prospect of obtaining oil.

OHIO.

Drilling for petroleum in the Ohio oilfields was very active during 1912, with good results in the deep "Clinton sand," in Central Ohio, especially in Vinton, Hoeking, Logan, Fairfield, Perry, Muskingum, Licking, Coshoeton, Holmes, Wayne, Medina, and Lorain Counties. In addition to a satisfactory yield of oil, large quantities of natural gas were obtained.

In the north-west corner of the State, the decline continued in the production of oil of the Lima grade, with an occasional increase in production from a few deep wells.

Year.	Regular crude.			Lubricating crude.			Total.		
	Quantity. Barrels.	Value.	Price per barrel.	Quantity. Barrels.	Value.	Price per barrel.	Quantity. Barrels.	Value.	Price per barrel.
1903	12,893,079	\$20,499,996	\$1.590	6,316	\$16,536	\$2.62	12,899,395	\$20,516,532	\$1.590
1904	12,636,253	20,557,556	1.627	8,433	26,225	3.11	12,644,686	20,583,781	1.628
1905	11,573,545	16,117,816	1.393	4,565	14,815	3.25	11,578,110	16,132,631	1.393
1906	10,111,647	16,138,811	1.596	9,288	31,482	3.39	10,120,935	16,170,293	1.598
1907	9,089,839	15,834,714	1.740	5,457	17,714	3.25	9,095,296	15,852,428	1.743
1908	9,519,875	16,902,968	1.775	3,301	8,897	2.70	9,523,176	16,911,865	1.776
1909	10,742,026	17,634,335	1.642	3,066	7,948	2.59	10,745,092	17,642,283	1.642
1910	11,751,018	15,717,796	1.338	2,053	5,748	2.80	11,753,071	15,723,544	1.338
1911	9,792,324	12,757,861	1.302	3,140	9,432	3.00	9,795,464	12,767,293	1.303
1912	12,126,137	19,919,952	1.643	2,825	7,769	2.75	12,128,962	19,927,721	1.643

There was a slight increase in the production of Ohio in 1912, when the total reached 8,969,007 barrels, against 8,817,112 barrels in 1911, an increase of 143,900 barrels, or 1.63 per cent.

In the following tables are given the production of petroleum in Ohio, by months and distriets, for the years 1911 and 1912 :

Month.	BARREL .		
	Lima.	South-eastern Ohio.	Total.
January	395,132	346,170	741,302
February	364,706	341,747	706,453
March	413,321	372,270	785,591
April	380,434	345,162	725,596
May	405,705	383,774	789,479
June	393,385	371,118	764,503
July	367,216	341,297	708,513
August	383,440	364,106	747,546
September	365,586	352,353	717,939
October	376,118	358,100	734,218
November	330,800	343,691	674,491
December	360,032	361,385	721,481
Total	4,535,875	4,281,173	8,817,112

Month.	BARREL .		
	Lima.	South-eastern Ohio.	Total.
January	254,382	333,489	587,871
February	245,764	356,983	602,747
March	316,946	443,795	760,741
April	366,846	440,834	807,680
May	380,394	453,807	834,201
June	354,165	416,396	770,561
July	365,227	439,748	804,975
August	358,260	460,361	818,621
September	322,245	410,131	732,376
October	353,881	437,877	791,758
November	313,361	397,129	710,490
December	324,426	422,501	746,986
Total	3,955,897	5,013,051	8,969,007

The quantity and value of petroleum produced in Ohio from 1903 to 1912, inclusive, by distriets, are shown in the following table :

Year.	BARRELS.			
	Quantity.	Value.	Quantity.	Value.
1903	14,893,853	\$17,351,339	5,585,858	\$8,881,514
1904	13,350,060	14,735,129	5,526,146	8,993,803
1905	11,329,924	10,061,992	5,016,646	6,991,950
1906	9,881,184	9,157,641	4,906,399	7,838,387
1907	7,993,057	7,425,480	4,214,298	7,343,943
1908	6,748,676	6,861,885	4,109,935	7,315,667
1909	5,915,357	5,451,497	4,717,069	7,771,555
1910	5,094,136	4,181,629	4,822,193	6,469,314
1911	4,535,875	3,888,119	4,281,173	5,590,457
1912	4,355,897	3,908,809	5,013,051	8,176,243

a Includes production of Michigan.

The Development of Galicia's Petroleum Industry.

A BRIEF RETROSPECT.

MR. HENRI CHARPENTIER, a Paris engineer, read at the Paris Mining Congress, held recently, the following interesting report on the development of petroleum exploitation in Galicia:—

During the last four decades the production of crude oil in Galicia has considerably increased—nearly one hundred fold. The rapidity of this development is particularly due to the introduction of Belgian, French, English and German capital, which has allowed the formation of important exploitation companies and the establishment of a pipeline and up-to-date refineries.

The petroliferous deposits of Galicia extend on the north of Austria along a line of 200 kilometres, which follow the Carpathian districts, situated between Cracow and Colomea, and extending to the east by way of Bukovina to Roumania. The petroleum is there formed in Eocene lime and the Cretacian, where it has been found by means of large borings; while from shallow borings in the south-west there are deposits of ozokerite, or mineral wax, in which the district of Boryslaw is especially rich.

The first borings in Galicia date from 1860. The wells bored at that time by peasants were very shallow, being from 10 to 20, and sometimes 50, metres deep. The oil they extracted was used by them for lubricating purposes, and later on it was also used for illuminating needs, after preliminary refining with sulphuric acid and caustic soda.

In 1875 some producers commenced to bore wells instead of digging them, but still by means of handwork, which was afterwards replaced by motors, but it was not until 1882 that the exploitation of petroleum began its real development, when Galicia was visited by the Canadian borer MacGarvey. Since then the production

has regularly increased, as is shown by the following figures:—

				Tons.
1870	..	..	..	20,000
1880	..	..	..	20,300
1890	..	..	..	20,400
1900	..	..	..	200,000
1905	..	..	..	800,000
1911	..	..	..	1,455,000
1912	..	..	..	1,180,000

In 1909 the production even exceeded 2,000,000 tons owing to the discovery of petroleum at Boryslaw in strata 1,000 metres deep, but since then a continual decrease in the production has taken place owing to the rapid exhaustion of the deep wells, the production of which was previously very large.

The price of crude oil in Galicia depends on the demands of the consumption, the capacity of reservoirs and the yield of new sources, the opening of which from time to time brings the Austrian market into a feverish condition.

Owing to the absence of direct outputs toward the sea, the local prices cannot be regulated or even corrected by foreign competition, and that is why the Galician prices of crude oil vary so largely. For instance, in 1890 they were 6 kronen, for 100 kilos; in 1900, 5 kronen; in 1905, 3 kronen; in 1908, 1 kronen; in 1910, 2½ kronen; in 1911, 4 kronen; in 1912, 5 to 8 kronen; and in 1913, 8 to 11 kronen per 100 kilos.

Notwithstanding the crisis in the production of Galicia during the last two or three years, the exploitation of petroleum in the country is but at its very beginning, for the deep borings which are now undertaken in the centre of the west of the mining district are bound to bring excellent results, and with further developments of boring works in Galicia we can expect to see the country rank as one of the first in petroleum production.

ROUMANIAN PRODUCTION DURING AUGUST.

THE total production of crude oil on the Roumanian fields during August amounted to 153,414 tons, as against 156,133 tons obtained during July. The production on the various fields during the month was as under:—

				Tons.
Bushtenari-Calinet-Grapi	...	...	...	12,843
Campina	...	...	...	19,291
Moreni	...	...	...	88,167
Tzintea	...	..	...	6,821
Baicoi	...	...	...	1,825
Bordeni	...	...	...	5,966
Other fields	...	...	..	3,179
Total for Prahova district	...	..	..	138,092
„ Dambovitza district	...	...	...	3,539
„ Buzea	...	...	...	9,051
„ Bacau	...	..	.	2,732
Grand total	...	...	...	153,414

SURAKHANY PETROLEUM PRODUCTION.

THE production of petroleum on the Surakhany oil-fields during the eight months of this year amounted to 25,964,000 poods, as against 20,280,000 poods, as against 10,534,000 poods obtained during the corresponding period of 1912 and 1911. The production has thus increased from last year by 28 per cent.

GROSNY PETROLEUM PRODUCTION DURING AUGUST.

THE production of crude oil on the Grosny fields during August amounted to 3,390,000 poods, as against 6,133,613 poods produced during July. This small production is, of course, due to the strike of the workpeople on the fields. The production during the eight months totalled 45,550,000 poods, including 15,000,000 poods of spouted oil. Of this last quantity, practically the whole of it, viz., 1,400,000 poods was obtained by the Akhverdoff Company.

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HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

October 24th, 1913.

There are no alterations in prices of Refined Petroleum which remain as follows:—Roumanian, 8d.; American, 8½d.; Russian, 8¾d.; Galician, 8½d.; American Water White, 9½d.

LUBRICATING OILS.

are unchanged, quotations being for:—

No. 1 Russian, £12. 2s. 6d.

No. 2 Russian, £10. 17s. 6d.

American pale, from £9. 12s. 6d.

American dark, from £11. 2s. 6d.

American filtered cylinder, from £13. 12s. 6d.

FUEL OIL

70s. per ton, in bulk, ex wharf is the current quotation.

GREASE-MAKING OIL

The market price is 80s. per ton, in bulk, ex wharf.

MOTOR SPIRIT

There are no changes to report, best quality being quoted at 1s. 9d. per gallon, and second quality 1s. 7d. per gallon.

TURPENTINE.

The American Turpentine market has been very excited and a large business has been done at increased prices. Quotations for spot are 31s. 6d.; November/December, 31s. 7½d.; January/April, 32s. 4½d.; May/August, 33s. 6d.

LIVERPOOL.

October 23rd.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8¾d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, September 25th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.	...	...	...
Kerosene Oil "Waterlily," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
" Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, October 23rd.

Oklahoma crude is still quoted at \$1.03 per barrel. Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, October 23rd.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, October 21st.

The petroleum prices remain unchanged. The demand for kerosene begins to be lively, that for benzine decreasing. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, October 21st.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 49–49½ copecs per pood spot. Mazout, 47½–48 copecs. Kerosene, 69–70 copecs.

ROUMANIA. October 21st.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Bushtenari	Francs.
" " " Moreni	...	6.00–7.00
" " " Tzintea	...	4.75–5.00
" " " Policiori	...	4.25–4.75
" " " Bana	...	8.75–9.25
Paraffin	...	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	26.00–26.50
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	18.00–18.50
Residuals, f.o.b. Constanza	...	7.00–7.50
Gas Oil...	...	8.00

AUSTRIA. October 21st.

Crude oil is quoted 9.20 kronen spot. Kerosene, 32.50 kronen at Oderberg. Benzine, 740/750, 26 kronen; 750/760, 23 kronen, 760/770, 21 kronen, at Oderberg. Gas oil, 7.30 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, E.C., report under date October 23rd as follows:—

The demand continues quiet and prices of oil sizes are to-day as under:—

1c 18½×14	124 sheets	110 lbs.	13/4½ @ 13/6	per box.
1c 20×10	225 "	156 "	19/- @ 19/3	"

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

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Canal Works,

Patricroft, MANCHESTER.

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Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

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FOR THE WEEK ENDED OCTOBER 20TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIPTION.	NO. OF GALS.	PORT WHENCE.
Oct.	LONDON—			
11/9	Anglo-Mexican Petroleum Products Co.	Fuel	13,370	P. Mexico
20/9	Anglo-American Oil Co.	Gas	35,800	Sabine
20/9	British Petroleum Co.	"	13,900	Port Arthur
14	Mordaunt Bros.	Lub.	4,200	New York
14	Grindley & Co.	"	4,000	"
14	Port Authority	"	240	Hamburg
14	"	"	480	Marseilles
14	R. O. Wiener & Co.	"	120	Antwerp
15	N. J. Fenner & H. B. Alder & Co.	"	4,100	Hamburg
15	Anglo-American Oil Co.	"	774,150	New York
15	"	Lamp	2,077,440	"
15	"	Fuel	1,195,950	Baton Rouge
15	"	Lub.	45,520	New York
15	Vacuum Oil Co.	"	26,770	"
15	Mercantile Lighterage Co.	"	22,000	"
15	Schliemann Oil, etc., Co.	"	2,600	Philadel.
15	Motor Petrol Association	Benzine	2,720	Brussels
16	"	"	4,550	"
16	Port Authority	Lub.	630	Antwerp
16	J. Thompson...	"	1,690	Riga
16	Hanseatic Maritime Agency	"	40	Bremen
16	Port Authority	"	400	Hamburg
16	Trinidad Lake Asphalt Co.	Lub. Resid	7,260	N. News
16	Worthington & Boler	Lub.	4,800	Philadel.
16	Schliemann Oil, etc., Co.	"	2,600	"
17	Ragosine & Co.	Lamp	1,260	"
17	"	Lub.	3,650	"
17	J. W. Cook & Co.	"	26,480	"
17	H. Johnson, Sons & Co.	"	120	Dantzig
18	Anglo-American Oil Co.	"	4,000	Philadel.
18	Page, Son & East	"	480	Antwerp
18	Motor Petrol Association	Benzine	8,480	Brussels
18	Petrol Users' and Trades Supply Association	"	51,640	Hamburg
18	Asiatic Petroleum Co.	"	5,000	Rotterdam
20	E. G. Boize	Lub. Oil and Gr.	160	Hamburg
20	Port Authority	Lub.	5,180	"
20	Leach & Co.	"	800	Ghent
20	N. J. Fenner & B. Alder & Co.	"	240	"
20	P. Brancher	Lub. Gr.	250	Antwerp
20	Snowdon, Sons & Co.	"	300	Trieste
20	S. Capon	Lub.	3,600	New York
20	Langley, Smith & Co.	"	2,210	"
20	Scott's Wharf	"	5,000	"
	LIVERPOOL—			
6/8	Meade-King, Robinson & Co.	"	2,480	Batoum
6/8	"	Lub. Resid	2,010	"
6/8	Bramwell, Fern & Co.	"	2,010	"
14	Swan, Finch & Co.	Lub. Oil and Gr.	6,160	New York
14	Bowring Petroleum Co.	Lub.	1,790	"
14	J. T. Fletcher & Co.	"	380	Antwerp
14	Penwarden & Jackson	"	110	"
14	C. W. Field	"	620	"
15	Bramwell, Fern & Co.	Lamp	250	Antwerp
15	H. Parry	Lub.	40	Hamburg
15	Anglo-American Oil Co.	Lamp	997,570	New York
15	"	Lub.	19,960	"
15	Vacuum Oil Co.	Lub. Oil and Gr.	11,200	"
15	"	Lub.	590	"
15	Pickford's	Lub. Oil and Gr.	60	Hamburg
16	Crew, Levick & Co.	M. Colza	8,480	Philadel.
16	"	Lub.	45,610	"
16	Worthington & Boler	"	7,080	"
16	Bramwell, Fern & Co.	"	1,000	"
16	Stockdale & Doel	"	6,000	"
16	Vacuum Oil Co.	"	23,510	"
17	Anglo-American Oil Co.	Lub. Oil and Gr.	50,200	"
17	"	Lub.	20,000	New York
17	Fellows, Morton & Clayton	"	2,950	Philadel.
17	American Line	"	2,210	"
18	Meade-King, Robinson & Co.	"	42,840	"
18	E. Harrison & Co.	"	4,000	"
18	Vacuum Oil Co.	"	23,720	New York
20	White Star Line	Lub. Gr.	480	"
20	Bramwell, Fern & Co.	"	800	"
20	Price's Patent Candle Co.	Lub.	2,400	Philadel.
20	W. B. Dick & Co.	"	11,440	"
20	Liverpool Storage Co.	"	1,000	"

DATE.	PORT AND IMPORTERS.	DESCRIPTION.	NO. OF GALS.	PORT WHENCE.
Oct.	BARROW—			
15	Asiatic Petroleum Co.	Benzine	945,000	Rangoon
15	"	Fuel	59,250	Bizerta
	BOSTON—			
20	W. F. Beaumont	Lub.	600	Hamburg
	BRISTOL—			
14	J. & R. Bush	"	32,400	New York
15	W. G. Clarke	"	480	Antwerp
16	E. Stock & Sons	"	120	Hamburg
20	First Anglo-Russian Oil Co.	"	2,610	New York
	CARDIFF—			
11	Furness, Withy & Co.	"	1,000	Antwerp
18	Bristol Steam Navig. Co.	Lub. Oil and Gr.	530	Hamburg
	GLOUCESTER—			
15	Bristol Steam Navig. Co.	Lub.	2,360	"
	GRIMSBY—			
13	J. Sutcliffe & Son	"	120	Antwerp
14	"	"	150	"
14	"	"	160	Hamburg
17	"	"	400	Antwerp
	HARWICH—			
14	Great Eastern Railway	"	40	"
16	"	"	160	"
	HULL—			
13	Wilson's & N. E. Railway	"	760	Hamburg
15	T. Wilson, Sons & Co.	"	10,680	New York
16	W. Gilyott & Co.	"	21,200	"
16	Wilson's & N. E. Railway	"	1,640	Hamburg
16	Hull & Netherlands Steamship Co.	"	280	Rotterdam
17	T. Wilson, Sons & Co.	"	120	Riga
20	"	"	5,000	New York
	MANCHESTER—			
14	Anglo-American Oil Co.	Lub. Oil and Gr.	11,450	Philadel.
14	J. T. Fletcher & Co.	Lub.	480	Ghent
15	D. Currie & Co.	"	130	Hamburg
16	"	"	270	"
16	Anglo-American Oil Co.	Lamp	1,356,450	New York
	NEWCASTLE—			
15	Tyne-Tees Steamship Co.	Lub.	830	Antwerp
17	"	"	400	Hamburg
17	P. H. Matthiessen & Co.	"	530	Bergen
	SWANSEA—			
15	Bristol Steam Navig. Co.	"	240	Antwerp
18	R. Turpin	"	7,300	New York
	ABERDEEN—			
17	R. C. Reid & Co.	Lub. Oil and Gr.	570	Hamburg
	DUNDEE—			
16	D. Alexander & Sons	Lamp	240	"
18	"	Lub.	40	"
	GLASGOW—			
14	Clyde Shipping Co.	Lub. Oil and Gr.	5,730	Antwerp
20	Allan Bros. & Co.	Lub. Gr.	480	Philadel.
20	"	Lub.	54,040	"
20	Anchor Line	"	29,400	New York
	GRANGEMOUTH—			
18	Order	Fuel	651,800	Port Arthur
	LEITH—			
16	G. Gibson & Co.	Lub.	200	Ghent
16	"	"	280	Antwerp
16	W. G. Yooll & Co.	Lamp	4,360	Hamburg
16	Jas. Currie & Co.	Lub.	600	"
17	G. V. Turnbull & Co.	"	940	Philadel.
20	W. G. Yooll & Co.	Lamp	1,090	Hamburg
20	Jas. Currie & Co.	Lub.	4,800	"
20	W. G. Yooll & Co.	Lamp	4,360	"
20	Jas. Currie & Co.	Lub.	4,000	"
20	"	"	360	Bremen
	BELFAST—			
10/9	Anglo-American Oil Co.	Lamp	7,640	Philadel.
15	J. C. Pinkerton & Co.	Lub. Oil and Gr.	250	Hamburg
17	G. Heyn & Sons	Lub.	2,000	Riga
			8,899,500	

The Petroleum Review Directory.

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Glinik Maryampolski, Galicia, Austria.
Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.
Oil Well Supply Co. (Pittsburgh), Dashwood House,
London, E.C.
Thom, John M., Patricroft, near Manchester.
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LAMP OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.
Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.
Homelight Oil Co., Ltd., 14, St. Mary Axe, E.C.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

LIQUID FUEL BURNERS.

Kermode's Liquid Fuel System, 35, The Temple, Dale Street, Liverpool.

LIQUID FUEL IMPORTERS.

The Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.
Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.
Lubricating and Fuel Oils, Ltd., 101 Leadenhall Street, London, E.C.

LIQUID FUEL INSTALLATIONS.

The Wallsend Slipway and Engineering Co., Ltd., Wallsend-on-Tyne.

LUBRICATING OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.
Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.
Bramwell, Fern & Co., London, Manchester and Liverpool.
Continental Petroleum Co., 13, Rue des Douze Mols, Antwerp.
Crew Levick Co., Irwell Chambers, W. Liverpool.
Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.
Meade, King, Robinson & Co., 22, Water Street, Liverpool, and Manchester.
The Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
Waverley Oil Work Co., Pittsburgh, Pa., U.S.A.
Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL BROKERS.

Benjamin & Gee, 31, St. Mary Axe, E.C.
Bramwell, Fern & Co., London, Manchester and Liverpool.
Lane & Macandrew, 26, Great St. Helen's, E.C.

OIL EXPORTERS.

Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
Waverley Oil Works Co., Pittsburgh, Pa., U.S.A.

OIL ENGINES.

Norris & Henty, 87, Queen Victoria Street, E.C.
Marshall, Sons & Co., Ltd., Britannia Works, Gainsborough.

OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.
Anglo-Makop Corporation, Ltd., 7, Angel Court, E.C.
Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.
Continental Petroleum Co., 13, Rue des Douze Mols, Antwerp.
Crew Levick Co., Irwell Chambers, W. Liverpool.
Homelight Oil Co., Ltd., 14-20, St. Mary Axe, E.C.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
Waverley Oil Works, Pittsburgh, Pa., U.S.A.
Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL PIPELINES.

Russell, John, & Co., Ltd., Alma Tube Works Walsall.
Stewarts & Lloyds, Ltd., 41, Oswald Street Glasgow

OIL TRACTORS FOR TRANSPORT.

Marshall, Sons & Co., Ltd., Gainsborough.

PETROLEUM CAN MACHINERY MANUFACTURERS.

E. W. Bliss Co., Poeock Street, Blackfriars Road, London, S.E.
Rhodes, J., & Son, Ltd., Grove Iron Works, Wakefield.

PETROLEUM HOSE.

The United Flexible Metallic Tubing Co., Ltd., 112, Queen Victoria Street, E.C.
Willcox, W. H., & Co., 32 to 38, Southwark Street, S.E.

PUMPS.

Hayward-Tyler & Co., Ltd., 99, Queen Victoria Street, London, E.C.
Lee Howl & Co., Ltd., 110, Cannon Street, E.C.
Willcox, W. H., & Co., 32 to 38, Southwark Street, S.E.

RAILWAY TANK WAGONS.

Hurst, Nelson & Co., Ltd., The Glasgow Rolling Stock and Plant Works, Motherwell; Northern Assurance Buildings, Albert Square, Manchester; and 14, Leadenhall Street, London, E.C.

RUSSIAN OIL IMPORTERS.

British Petroleum Co., Ltd., 22, Fenchurch Street, E.C.
Homelight Oil Co., Ltd., 14, St. Mary Axe, London, E.C.

SHIP BROKERS.

Gibson, E. A., & Co., 22, Billiter Street, London, E.C.
Lane & Macandrew, 26, Great St. Helen's, E.C.
Moss, H. E., & Co., Liverpool, London and Newcastle.

STORAGE ACCOMMODATION.

Liverpool Storage Co., Ltd., Birkenhead, Manchester, Bootle, Liverpool.
Victoria Petroleum Co., Ltd., Liverpool and Cardiff.

SULPHURIC AND ANHYDRIDE ACIDS.

Spencer, Chapman & Messel, Ltd., 36, Mark Lane, London, E.C.

TANK BUILDERS.

Dampfkessel und Gasometer Fabrik, Act. Ges., Braunschweig, Germany.
Walker, C. W., Ltd., Dunnington, near Newport, Salop.
Whessoe Foundry Co., Ltd., Darlington.

TIN PLATES.

Norton, Owen & Co., 4, Bishopsgate Street Within, E.C.
Prior, S. J. B., 5, Laurence Pountney Hill, E.C.

TRAM AND WAGON GREASE.

Goodall & Simpson, Ferry Road Oil Works, Cardiff.

TUBES (STEEL AND IRON).

Deutsche - Oesterreichische Mannesmannröhren Werke, Düsseldorf, Germany.
Russell, John, & Co., Ltd., Alma Tube Works Walsall.
Spence, John, Ltd., Globe Tube Works, Wednesbury.
Thom, John M., Patricroft, near Manchester.

WAXES.

Benjamin & Gee, 31, St. Mary Axe, E.C.

WIRE ROPES.

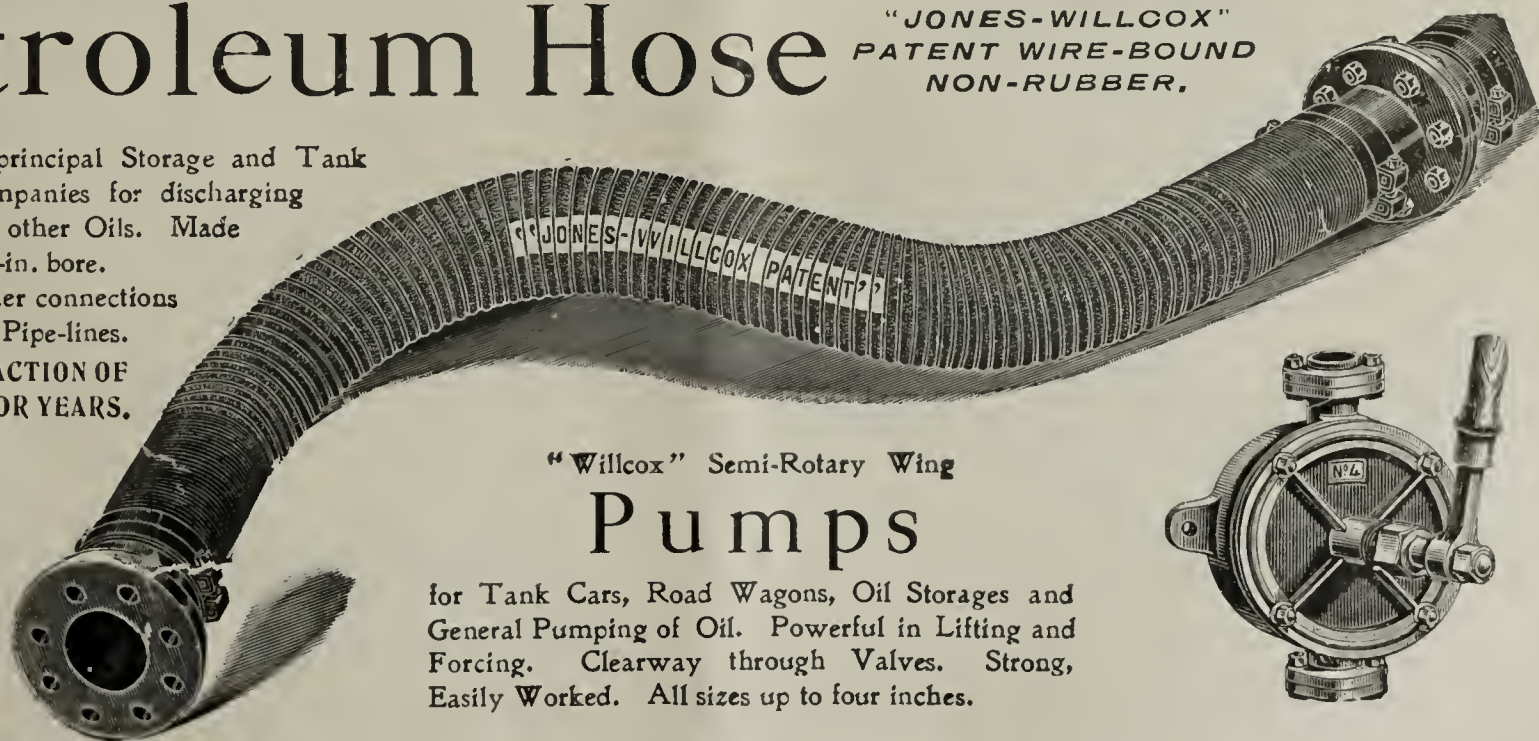
Glaholm & Robson, Ltd., Sunderland, London Office: Finsbury Court, Finsbury Pavement, London, E.C.
Smith, Thos. & Wm., Guildhall, Newcastle-on-Tyne.
Wright, J. & E., Ltd., Unlverse Works, Garrison Street, Birmingham.

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Used by the principal Storage and Tank Steamship Companies for discharging Petroleum and other Oils. Made from ½-in. to 10-in. bore. Flanges and other connections supplied to suit Pipe-lines. RESISTS THE ACTION OF PETROLEUM FOR YEARS.

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upon
Application.



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Pumps

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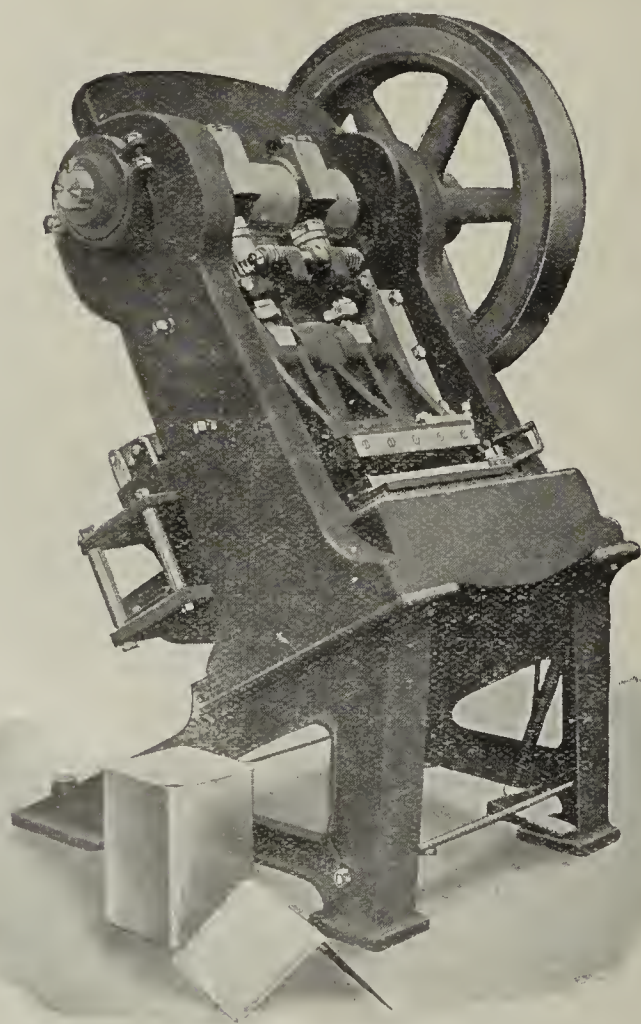
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The Petroleum Review.

Founded by PAUL DVORKOVITZ.

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NOVEMBER 1st, 1913.

No. 589.

THE PETROLEUM REVIEW.

The ANNUAL SUBSCRIPTION for both English and Foreign readers is 26s., including Postage. Single Copies may be had at the offices at 6d.

The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

The Late Mr. E. A. Gibson.

By the death of Mr. Edward A. Gibson, senior partner in the firm of Messrs. E. A. Gibson & Co., which sad event is referred to elsewhere in this issue of the REVIEW, the oil trade of this country mourns the loss of a dear and true friend. Mr. Gibson was one of the gentlemen associated with the early carrying trade of petroleum products to this country, and was at one time associated as a director with the first oil refinery built in this country for the refining of crude oil. He was well known and highly respected by all associated with England's oil trade, and his removal severs a link in the chain of the old school of oil brokers in London.

Russia's New Oil Areas.

FROM time to time we have called the attention of the Russian Government to the fact that, owing to its absolute failure to come to the rescue of Russia's petroleum industry by not leasing out new petroliferous areas for exploitation, a retrograde movement has set in. We now learn with a great deal of pleasure that the Ministry of Trade and Industry is now engaged in mapping out several new areas which are to be leased for exploitation. The REVIEW understands that the whole area is between two and three thousand dessiatines, and embraces the lands occupied by the peasants of the villages of Surakhany, Amiradjani, Bulbili and Romani. In addition, it is intended to extensively develop exploitation in the GuriEFF district and on the islands of Tcheleken and Swiatoi, while in the Ukhta district it is proposed to stake out several plots which will be immediately leased out for exploitation. It is the desire of the Government that private enterprise shall also be directed to the virgin petroliferous lands in Central Asia, but in strict accordance with its past dog-in-the-manger policy the Government, while welcoming enterprise on the one hand, gives it the direct cold shoulder on the other, for not only are the State royalties to be increased,

but the areas in Central Asia are to be leased conditionally upon a payment of one-and-a-half million roubles to the Exchequer for the erection of a railway to the district.

A Canadian Oil Boom.

FOLLOWING upon the discovery of crude oil in the Black Diamond district, a short distance southwest of Calgary, Canada, the city of Calgary itself is now the scene of a very decided oil boom.

Our Canadian correspondent learns that there is a wild rush to the Dominion Land Office, and during a recent week-end hundreds of persons took up their positions in order to be among the first comers for claims when the offices opened on the Monday. Considerable territory has already been leased, and numerous leases are reported to have changed hands at very fancy prices. By a strange coincidence the Department of Mines at Ottawa a few days before the strike issued a very interesting publication dealing with the geological conditions of Western Canada, and this publication is being reproduced in instalments in the REVIEW. The Department holds that the Devonian limestone is the source of the gas and petroleum products of Northern Alberta, while the Dakota sandstone overlying the Devonian forms the reservoir into which these products have risen. As both limestones are widely distributed in the prairie provinces of Alberta, Saskatchewan and Manitoba, the prospects for the opening up of new oil-producing regions are extremely good.

Extinguishing a Burning Spouter.

THE Russian *Journal of the Society of Technology* contains a very interesting article by the engineer D. Landau on a new method of extinguishing fire in a burning spouter, which is naturally of very great importance. Mr. Landau has perfected a method, by means of which the fire which broke out at Surakhany on the fields of the Caspian & Black Sea Company, and which lasted from June 17th to August 20th, 1911, was extinguished. Besides the problem of extinguishing this fire there was also that of saving the largest possible quantity of oil. The chief thing to be remembered when extinguishing any oil-well fire is the fact that burning takes place only on the surface. By erecting a funnel of earth round the spouter, the surface of the burning spouter was greatly diminished, while at the same time by laying some pipes under the burning surface the oil not yet consumed was carried away. The pipelines were laid quite close to the fire at each end of it; the oil was then led to an anbar, into which cold water was poured, which served as a kind of hydraulic valve. Mr. Landau's apparatus represents an iron cone-shaped

funnel hermetically connected with a pipe 30 in. in diameter and 9 in. in height. This vertical pipe is connected at the bottom with a horizontal pipe of 10-12 in. in diameter, having a valve on the outside end. On top of the funnel there is arranged a movable cast-iron plate with ropes, by means of which the apparatus can be closed or opened at will. By means of a specially arranged rapidly working elevator or lift the cone-shaped funnel can, in a moment, be arranged vertically on top of the burning spouter, while the basis of the apparatus can at once be blocked with sacks of earth so that the fire is not able to penetrate between the bottom of the apparatus and the ground. After the funnel is fixed on to the spouter the burning can only proceed on the top of the funnel. The spouting oil is then carried away by means of a pipeline, which is passed through an iron box with a hydraulic valve.

Congratulations.—We take the following interesting item of news from Thursday's issue of the *Morning Post*. "An engagement is announced, and the wedding will take place on November 22nd, at St. James's Church, Piccadilly, of Miss Helen Holmes, only daughter of Dr. and Mrs. Reid Holmes, of Richmond, formerly of Old Burlington Street, and Mr. Robert Harman Mackenzie, eldest son of Mr. Harman Mackenzie, Guildford, Surrey." Mr. R. H. Mackenzie is well known in the oil trade, he being prominently associated with the Oil Well Engineering Company, Ltd., of Cheadle, London, Canada and Buenos Aires, from which latter place Mr. Mackenzie recently returned.

SITUATION WANTED

AN ENGLISHMAN with a good knowledge of the Russian language is open to accept a position as secretary or assistant manager with an English oil company. Write, "A 3," PETROLEUM REVIEW offices, 45, St. Mary Axe, E.C.

OIL-BEARING CONCESSIONS FOR DISPOSAL.

ADVERTISER wishes to treat with influential principals for the acquisition upon most favourable terms of oil territories in the Baku, Grosny, Taman and Ural-Caspian fields. Write in first instance to "Oil," c/o PETROLEUM REVIEW, 45, St. Mary Axe, E.C.

REFINERY FOR DISPOSAL.

UP-TO-DATE Oil Refinery in Baku for disposal. The refinery, which is an old-established one, is capable of considerable enlargement, and forms an excellent asset for any company desirous of entering the remunerative branches of oil refining. Write, "Refiner," c/o PETROLEUM REVIEW, 45, St. Mary Axe, E.C.

CHAS. N. GOULD, Ph.D.,

Former State Geologist of Oklahoma. 20 Years' Experience.

Developed and Undeveloped Oil Properties in the
MID-CONTINENT OILFIELD

Examinations and Reports.

408, TERMINAL BLDG., OKLAHOMA CITY, U.S.A.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended October 25th was 113,000 poods.

SPIES PETROLEUM COMPANY, LTD.—The production for week ended October 26th, including 4,345 poods from ambars, was 309,760 poods, or about 4,996 tons. The total production for the year, from January 14th to October 26th, was 10,653,295 poods, or about 171,827 tons. The total production for the corresponding period last year was 13,414,530 poods, or about 216,363 tons. Price of crude oil at Baku is now 46½ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended October 25th was 22,473 poods (362 tons).

EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended October 26th was 103,000 poods, or 1,661 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended October 18th was 126,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended October 25th was 28,867 poods (466 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended October 25th was 8,387 poods, or 135 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended October 26th was 10,842 poods, or 175 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended October 18th, 103,990 poods or 1,677 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest production for week ended October 21st was 213,000 poods, or 3,436 tons. Corresponding period last year, 680 tons. Total production to date for this year, 81,465 tons, last year 23,485 tons.

BIBI-EBAT PETROLEUM COMPANY, LTD.—Production for the week ended October 26th was 90,800 poods, or 1,456 tons.

MAIKOP MIDLAND.—Production at Krinskaya for week ended October 25th was 121 tons.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended October 11th was 15,289 poods (246 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended October 18th was 1,455 poods (23 tons).

GERHARD & HEY, OILFIELDS SHIPPING AGENTS,

Great St. Thomas Apostle
(Off Cannon Street),

ESTABLISHED 1856.
Telephone: City 8840 (4 lines).

LONDON, E.C.

DEATH OF Mr. E. A. GIBSON.

A WELL-KNOWN FIGURE IN OIL CIRCLES PASSES AWAY.

It is with deep regret that we have to chronicle the death of Mr. Edward Aisbitt Gibson, senior partner in the firm of Messrs. E. A. Gibson & Co., shipbrokers, 22, Billiter Street, London, E.C., the sad event taking place at Mr. Gibson's residence, "Haslemere," Bromley, Kent, on Tuesday morning.

Few gentlemen were so respected in London oil circles as our late friend, whose association with the transport trade of petroleum products dated back well over a quarter of a century, when the oil trade was but in its infancy, and his removal will be sadly missed among the already thin ranks of those who have witnessed this country's oil trade grow from such insignificant beginning.

Mr. E. A. Gibson, who was the second son of Mr. Thomas Gibson, of Sheriff Hill, Newcastle-on-Tyne, came to London in 1873, joining Messrs. Cruickshank & King, and afterwards becoming associated with the firms of Messrs. Craven & Co. and Messrs. Carlisle & Co. Prior to founding the business of Messrs. Ponsonby & Gibson, he was the London manager of Messrs. Hunting & Pattison, now Messrs. Hunting & Son, the well-known firm of tank-steamer owners and oil brokers of Newcastle-on-Tyne.

Mr. Gibson took a great interest in the proposition put forward many years ago for importing crude oil and refining it in this country, and when the Mineral Oil Corporation was formed for the purpose of refining imported crude oil, he became one of its directors.

A prominent Mason, Mr. Gibson was a member of the Lodge of King Solomon, his mother lodge being at Gateshead. He was a founder of the Kingsway and Aldwych Lodges and a Grand Mark Lodge officer. Mr. Gibson was a strong temperance reformer, being a member of the Board of Governors of the London Temperance Hospital and Chairman of the London Auxiliary of the United Kingdom Alliance.

In politics and municipal matters Mr. Gibson always

took a keen interest, being a strong Liberal. He was a well-known and prominent member of the Baltic Mercantile and Shipping Exchange, and was held in great respect by all with whom he came into contact.

We understand that the business of the late Mr. Gibson will be continued as heretofore by his son—Mr. Archibald Gibson—who has been associated with the firm for the past twenty-one years.

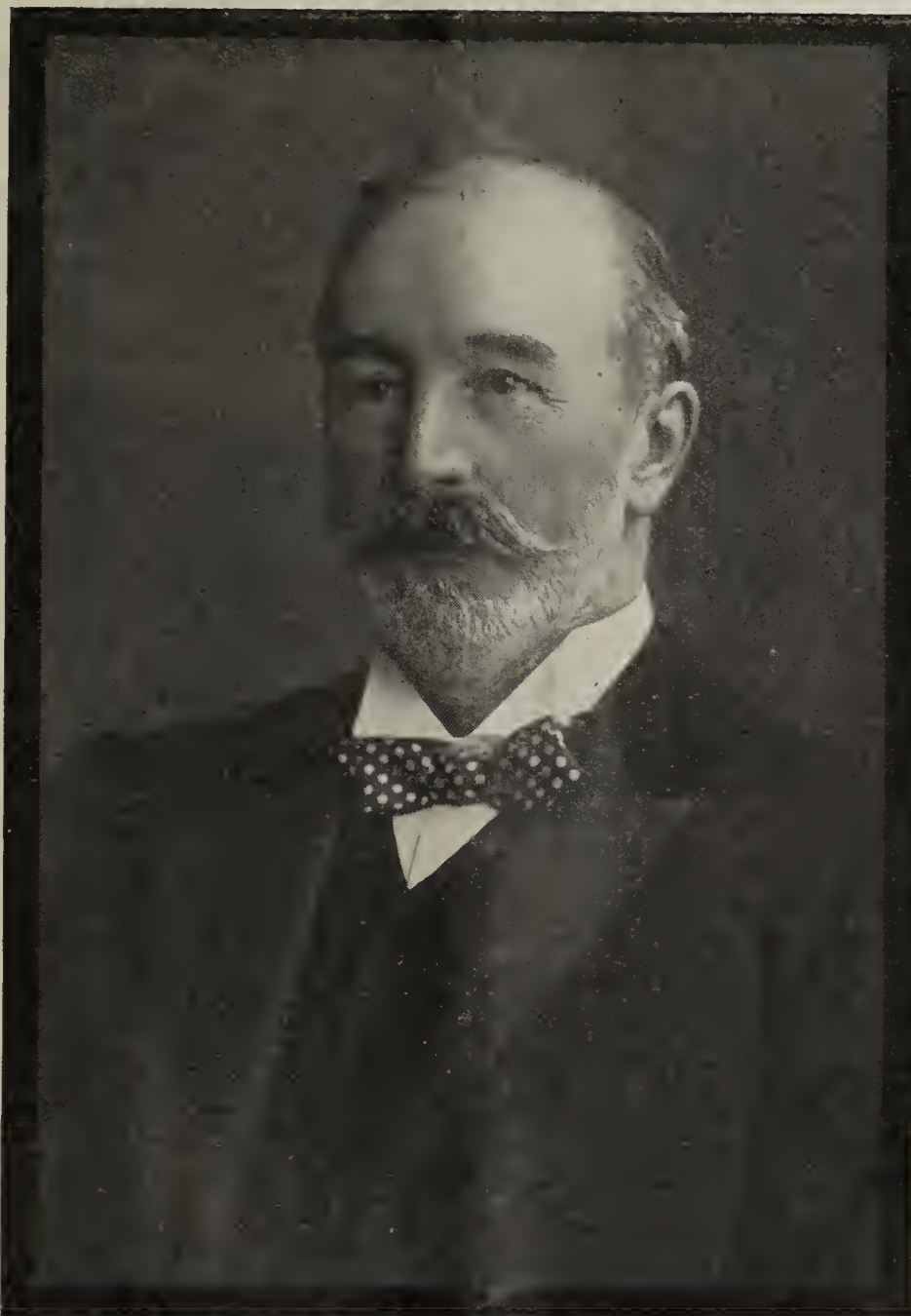
The interment of the deceased gentleman took place

yesterday (Friday) afternoon at Abney Park cemetery amid general manifestations of deep regret. The chief mourners were Mr. H. P. Gibson and Mr. Archibald Gibson (sons), Mr. G. M. Gibson, Newcastle-on-Tyne (brother), Messrs. G. A. Mate and S. G. Mate (sons-in-law), whilst amongst those present at the graveside we noticed Mr. A. J. Anderson, Mr. Chas. S. Hunting, Mr. John Wilson, Mr. Norman Jamieson, and Mr. W. Wilson, while deputations were present from the United Kingdom Alliance, the London Temperance Hospital, the Borough of Hackney Local Option Union, the Lodge of King Solomon, etc.

The wreaths were both handsome and numerous—eloquent yet silent tributes of the esteem in which the late gentleman was held

by a host of friends. Among the senders of these were Mr. and Mrs. C. S. Hunting, Messrs. Hunting & Son, The Texas Company, the directors of Messrs. William Mate & Son, Ltd., etc., etc.

Mr. Gibson, who was in his seventy-second year, had been in failing health for some time, but up to a few weeks ago continued to come to his business in the City.



The Late Mr. E. A. Gibson.

Maikop Petroleum Production.—The production of petroleum on the Maikop oilfields during the first half of September amounted to 181,041 poods, from 17 plots and 144 wells. The production for the whole month amounted to 361,742 poods, and that for the nine months to 3,693,800 poods.

DEVELOPMENTS IN THE OILFIELDS.

LATEST PROGRESS REPORTS.

Roumanian Consolidated Petroleum Company, Ltd.—Production (week ended October 25th), 1,510 tons.

Anglo-Maikop Corporation, Ltd.—Manager at Krimskaya telegraphs, 26th instant:—Wells Nos. 1 and 3, freeing casing. Well No. 2, depth, 286 ft.

Kansas-Oklahoma Oil and Refinery Company, Ltd.—Run of oil through pipeline to refinery for fourteen days ended October 15th, 27,000 barrels.

Maikop Pipeline and Transport Company, Ltd.—Received for pumping (week ended 25th instant) Ekaterinodar line, 931 tons; Krimskaya line, 160 tons.

Levanovskoe Petroleum Company, Ltd.—Production (week ended 25th instant), 56 tons. Well No. 2, cleaning. Well No. 3, cutting casing. Well No. 4, depth, 720 ft.

Balkan Petroleum Syndicate, Ltd.—Position of well No. 1 at October 25th:—Drilled, 472 metres; cased, 467 metres. The new casing and tools were delivered on the property on October 16th, and drilling was resumed the next day.

Santa Maria Oilfields of California, Ltd.—Information has been received from the Los Angeles office that a further contract for surfacing thirty-one miles of the Californian State highway has been awarded to the company's subsidiary trading company.

Tcharken-Cheleken Oil Company, Ltd.—A telegram from the chief engineer states that oil has been struck on plot 8,387 at a depth of 504 ft. A spouter resulted, which in the first hour threw up an enormous quantity of oil. A cork of sand was then formed, which is now being cleared.

Maise's Petroleum Trust, Ltd.—Telegrams from the manager in Roumania: (Received 25th instant)—“Working restarted at Bordeni; yesterday's production, 25 tons. Well No. 5, giving strong gases.” (Received 27th instant)—“Bordeni 5 started, producing 5 tons, whilst deepening—big production expected.”

Tampico-Panuco and Chijoles.—“Well belonging to Tampico-Panuco Oilfields at Tamboyoché, depth, 3,530 ft. Wells of Chijoles Oil, Nos. 1 and 2, closed down. No. 2 giving 350 barrels per day when shut off. Delivering oil from No. 3 only, as buyers unable to take oil as fast as we can deliver. Therefore, delivery during last week, 1,850 barrels. Well No. 3, depth, 2,250 ft. Well No. 2, ready for drilling, pending transport boiler from Panuco.”

NEW ENGLISH COMPANIES.

MORENI AND PACURI OILFIELDS, LTD.

REGISTERED on October 24th by W. R. Bryan, 20, Bucklersbury, E.C. Capital £125,000, in 5s. shares. Objects: To carry on the business of producers, manufacturers, and refiners of and dealers in petroleum spirit and oils, etc. Minimum cash subscription, £1,000. Signatories include James William Bryan, William R. Bryan, Percy Horsley, and Charles Robert Ward. First directors have not yet been appointed.

Remuneration, £100 each per annum. Registered office, 16, St. Helen's Place, Bishopsgate, E.C.

THE NEW RUSSIAN OIL SYNDICATE, LTD.

Registered on October 22nd by William S. Berkshire, 676-7, Salisbury House, E.C. Capital, £10,250 (10,000 preference shares of £1 each, and 2,185 “A” shares, 1,875 “B” shares, and 940 “C” shares of 1s. each). Objects: To carry on the business indicated by the title. Signatories: D. John Taylor and Arthur E. Lidbury. First directors (who are to number not less than two nor more than five) are to be appointed by signatories. Registered office, 676-7, Salisbury House, London Wall, E.C. Private company.

PATENTS.

Specially contributed by Messrs. EDWARD EVANS & CO., Consulting Engineers, Chartered Patent Agents and Enrolled Patent Attorneys of the United States, of 27, Chancery Lane, London, W.C.
The undermentioned “Applications Published” are all in the stage in which opposition to the grant of patents upon them can be made.

Messrs. EDWARD EVANS & CO. would be pleased to forward a copy of any of the Specifications on request, and on remittance of a P.O. for 1s. to cover cost and postage. They would also be pleased to advise upon the novelty, subject matter, and value of any invention submitted to them by our subscribers.

APPLICATIONS PUBLISHED.

Petrol vapour burners for heating purposes.—Theodule Labeille. No. 18802 of 1912. This relates to a petrol vapour burner and consists in the provision of a mixing device arranged below a perforated tube, a ring or like grid and a single gasifier having a coiled tube arranged above the grid and connected to an ejector casing controlled by a needle valve and placed opposite the mixing device, the gasifier being formed of a single coil having superposed parts arranged wholly in the hot zone and having its end curved round underneath the grid and connected to the injector casing without unduly exposing a cooling surface.

Reservoirs for inflammable liquids such as petroleum, petrol, or the like.—Karl Müller, of Schlieren, Switzerland. No. 8982 of 1913. This relates to a reservoir for inflammable liquids lighter than water, such as petroleum, benzine, and the like, and comprising a tank shaped as a diving bell for storing the liquid, and arranged in a tank with a sealing liquid and consists in the providing the inlet and outlet valves communicating with the stored liquid tank and arranged above the highest possible level of the sealing liquid, which valves are closed at the moment when the maximum volume of the stored liquid is reached as well as at the moment when the discharge of stored liquid is finished.

APPLICATIONS FILED.

Spraying devices for spreading or distributing liquids.—Charles Leonard de Wilde Reader. No. 19,952 of 1913.

Apparatus for spraying viscous materials, such as tar, molasses, heavy oils, and the like.—Charles Leonard de Wilde Reader. No. 20,036 of 1913.

Combustion of combustible mixtures.—Cyril Douglas McCourt and Bonecourt Surface Combustion, Ltd. No. 20,092 of 1913.

Process for the manufacture of hydrocarbons.—Rudolf Hense. No. 20,188 of 1913.

Process for cracking oils.—Oliver H. Valpy and Owen David Lucas. No. 20,470 of 1913.

Apparatus for purifying oil.—Edwin L., son Berger. No. 20,805 of 1913.

Process for producing fusel oil.—Joseph Scheckenbach. No. 20,942 of 1913.

Making lighter hydrocarbons from heavier ones.—Planes, Ltd., and William Phillip Thompson. No. 21,273 of 1913.

Supplementary burners for wickless oil stoves.—Frederick Sirett. No. 21,398 of 1913.

PEROXIDISED KEROSENE AS MOTOR FUEL.

A NEW POWER LIQUID FOUNDED UPON A NEW THEORY.

ORDINARY kerosene can be modified chemically, at a very slight expense, by the addition of a small amount of peroxide of hydrogen, to successfully take the place of gasoline for automobile use, is the claim of Mr. George B. Selden, of Rochester, N.Y., inventor of the method, and holder of the Selden basic patents on automobile construction.

Although this fuel, which Mr. Selden calls peroxidised kerosene, is not a new fuel to him, for as far back as 1905 he made use of it in motor boats both on Lake Cayuga and the Potomac river, and in July, 1909, was granted a patent on the process, together with a similar process using picrate of naphthalene instead of peroxide of hydrogen to treat the kerosene, through pressure of other matters, he had paid little attention to the treated kerosene as fuel for internal combustion engines until recent increases in the price of gasoline called it to his attention.

According to the inventor, peroxidised kerosene is entirely stable, differs but slightly in colour, specific gravity and flash point from the kerosene from which it is made, and burns completely and cleanly in an engine, without deposit in the cylinders or smoke in the exhaust. It can be used in all of the ordinary carburettors, which can be sufficiently adjusted to furnish the proper ratio of air to the fuel.

"It seems to be a fact," he says, "that paraffin hydrocarbon liquids, although inert to other supporters of combustion, such as oxygen, ozone, or nitrous oxide, will absorb enough peroxide of hydrogen to enable kerosene to burn cleanly in an engine. The theory is very simple. The 20 per cent. of oxygen in the air is sufficient to burn the proportion of carbon in the gasoline (even such low grades as we are now getting), but not enough to burn the larger proportion (nearly one-half more) of carbon in the kerosene completely. If this theory is correct, then the air deprived of part of its oxygen, gasoline ought to burn with as much smoke as kerosene gives off in ordinary air. This I find on experiment to be true."

Recently, in a test conducted at Rochester, a seven-seated touring car, weighing with its load 4,600 lbs., was driven twelve and seven-tenth miles in twenty-four minutes, on a consumption of one gallon of peroxidised petroleum distillate, with no resulting smoke or disagreeable odour. The actual cost of the gallon of fuel used was a fraction less than 7 cents. According to Selden, the cost of treating kerosene by this process is but little more than that of handling the liquid to be treated, making the final cost for the peroxidised fuel but slightly more than the original cost of the kerosene.

In addition to rendering kerosene suitable for use as automobile fuel, the same treatment can be applied to lubricating oils, to prevent smoke and carbon deposits in the cylinders. One of Selden's cars has been run upward of 1,500 miles with peroxidised lubricating oil, without producing enough deposit on the spark plugs to soil a silk handkerchief.

Here is a copy of the original patent granted to Selden on his process for peroxidising kerosene July 27th, 1909, being No. 929,503 in the files of the American Patent Office.

"My invention relates to an improved fuel, more especially adapted for producing motive power in internal ignition engines, and is designed to increase the explosive force of a charge of said fuel when mixed with air, and at the same time to deodorise the exhaust, the formation of smoke being also partially or entirely prevented.

"The most important point in the preparation of my improved fuel consists of the addition to the ordinary liquid fuel of a suitable volatisable peroxide. I add to the liquid fuel, which is ordinarily a petroleum distillate, but which may be an alcohol, ether or other suitable liquid hydrocarbon, a suitable volatisable peroxide, of such a character that it gives only gaseous products on combustion. Of such peroxides the most familiar is peroxide of hydrogen, and I have found on the addition of this to the liquid fuel that a notably increased pressure and power is produced.

"The aqueous solution of peroxide of hydrogen may be utilised by running a small quantity of such solution into the air inlet apparatus of internal ignition engines. I prefer, however, to use a solution which contains little or no water, and I obtain this solution in the following way: The ordinary aqueous solution of peroxide of hydrogen is mixed with gasoline ether, or other suitable liquid hydrocarbon, and the peroxide passes from the water to the hydrocarbon. The latter, being then decanted, will be found to give increased power in the engine. The solution of hydrogen peroxide in ether, however, mixes in any proportion with the liquid fuel; and such mixture may be used in any ordinary or preferred kind of compression, exhaust mechanism and carburettor. About three per cent. of weight of the solution of peroxide of hydrogen in ether will give a decided increase in power. A slightly larger proportion may be used, the operator keeping in view, of course, the strength of his engine, and other circumstances. I have discovered also that peroxide of hydrogen and similar volatisable peroxides have a very powerful effect in deodorising the exhaust to internal ignition engines. For such purpose, said peroxides may be used alone, in mixture with the liquid fuel, or in combination with various other substances mixed therewith, which increase the pressure of the exploding charge in an engine. Thus a liquid fuel consisting of a hydrocarbon having from one to two per cent. of nitro-benzol (oil of mirbane), and a small amount of peroxide of hydrogen (say one-half of one per cent.) added thereto, will give a decided increase of power produced in an engine in which it is used, and the exhaust therefrom will be perfectly deodorised. Repeated tests have shown that it is impossible to detect any odour even from the lubricating oil.

"My invention includes the use of other peroxides than the peroxides of hydrogen that will give only

gaseous products on combustion, such as benzoic and acetic peroxides, and similar substances. The peroxide may be also introduced into the liquid hydrocarbon in various other ways, as by an alcoholic solvent.

"I claim:—

"1. As an improved fuel for internal ignition engines, a liquid hydrocarbon containing a volatilisable peroxide, substantially as described.

"2. As an improved fuel for internal ignition engines, a liquid hydrocarbon containing a vehicle carrying a volatilisable peroxide, substantially as described.

"3. As an improved fuel for internal ignition engines, a liquid hydrocarbon containing a peroxide and a nitro-substitution compound, substantially as described.

"4. As an improved fuel for internal ignition engines, a liquid hydrocarbon containing peroxide of hydrogen and a nitro-substitution compound, substantially as described.

"5. As an improved fuel for internal ignition engines, a liquid hydrocarbon containing a peroxide and nitro-benzol, substantially as described.

"6. As an improved fuel for internal ignition engines, a liquid hydrocarbon containing peroxide of hydrogen and nitro-benzol, substantially as described.

George B. Selden."

Selden's process for treating kerosene in a similar manner with picric acid, which he uses in the form of a picrate of naphthalene, or a similar compound of picric acid, brings similar results, according to his claims in his application for a patent. He was granted a patent, No. 928,803, on this process, July 20th, 1909, just a week before given a similar patent on the peroxide of hydrogen process. Here is what he says about the picric process in his application.

"By experiment with admixtures or solutions of many substances with the liquid hydrocarbon adapted for use in internal combustion engines, with a view of increasing the power at least expense, I have observed that greatly improved results are obtained by the picrate or other nitrated compounds of naphthalene or similar compounds of the condensed benzene nuclei. In using these compounds they are added directly to the fuel, if soluble therein, and otherwise they are dissolved in a suitable solvent, such as one of the alcohols, benzene, benzole, acetone, etc., and the solution mixed with the liquid fuel. The proportion of the material added to the fuel may vary within considerable limits—from one-half of one per cent. to five per cent. or more—according to the judgment of the user, the amount of increased power he desires from his loaded fuel, the strength of the engine, and other circumstances, such as the solubility of the loading compound in the solvent, or the liquid fuel employed. I have found by actual brake tests that two per cent. of picrate of naphthalene, when dissolved in the fuel, will increase the power obtained in the engine, over that obtained in the same engine by plain or unloaded fuel, by more than 100 per cent. In dissolving the naphthalene or similar compound, it is immaterial whether the solvent of the compound is slightly in excess, and the mixture may be made either directly in the solvent or in the fuel. The loaded fuel thus produced is of a decided yellow colour, which serves as a distinctive mark. This loaded fuel may be used in any of the ordinary types of engines, the result being a greatly increased explosive effect.

"The exhaust does not differ materially, either in appearance or odour, from the exhaust when unloaded fuel is used, and, if desired, it may be completely deodorised by the addition of a small quantity of suitable peroxide or an ether. Peroxide of hydrogen, preferably in a non-aqueous solution, accomplishes this purpose

of deodorisation excellently. Only a small quantity is required, not more than one-half of one per cent. The ethers, such as an oxalic ether, for example, produce the same effect. Under the same circumstances, a peroxide and an ether may be used together with advantage.

"I have found by experiment that a fuel thus loaded will greatly increase the effectiveness of the engine, and that a less amount of fuel is required than if it is used with no addition thereto. The expense, therefore, is not increased, as the increased effectiveness of the loaded fuel pays the cost of the load. Furthermore, the addition to the fuel permits the use of a fuel of heavier specific gravity, thus reducing the expense. Another advantage is that just as high pressure can be obtained in the engine cylinder with less compression, which thereby reduces the resistance of the engine.

"The property of producing the increase of power described is practically inherent in the picrate compounds of the hydrocarbons of the condensed benzene nuclei type, such as naphthalene $C_{10}H_8$; phenanthrene, $C_{14}H_{10}$; fluoranthene, $C_{11}H_8$; pyrene, $C_{16}H_{10}$; chrysene, $C_{18}H_{12}$; and picene, $C_{22}H_{14}$.

"I claim:

"1. The herein described improved fuel for internal combustion engines, consisting of a suitable liquid hydrocarbon containing picrate of naphthalene, substantially as described.

"2. The herein described fuel for internal combustion engines, consisting of a suitable liquid hydrocarbon containing a picrate of a suitable hydrocarbon, substantially as described.

"3. The combination with a suitable liquid hydrocarbon, of picrate of naphthalene, and a suitable peroxide substantially as described.

"4. The combination with a suitable liquid hydrocarbon of picrate of naphthalene and peroxide of hydrogen, substantially as described."



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THE OILFIELDS OF BURMA.

Their History and Development.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

*Reprinted from
"Memoirs of the
Geological Survey
of India."
Volume XL, Part I.*

(Continued from page 411.)

DR. NOETLING found indications on the south slope of Leit Taung in Block 2N that oil had been collected in shallow pits. It oozes in small quantities from some of the gas and mud vents. As the section shows, the two test wells drilled by the Burma Oil Company some years ago are too far to the west to be of any value, since the "hade of the crest locus" is very small here: both wells obtained slight "shows" of oil, neither being more than 1,000 ft. deep. This company has recently resumed operations here, and with better chosen sites has met with more success. Oil is obtained from a sand between 450 and 550 ft., one well yielding nearly 80 barrels. This oil has a specific gravity of .927 and contains no solid paraffin. Oil has recently been unexpectedly obtained in paying quantities from shallow sands immediately west of the N.E. boundary pillar of Block 2N.

A section through Sinle Daung shows a rhomboidal-topped anticline, the crest occupying the uppermost angle of the rhomboid. The crest is followed on the east by dips quickly rising to 45 degrees, beyond which the rise in dip is very rapid and the beds become vertical and reversed. There is a good deal of waving in these dips, caused probably by the weight of the rocks, the cliffs often showing the sinuous course taken by the strata as they dip first to east, then to west, then to east again (see sketch), from the top of the section to the



bottom. Some of the excessively reversed dips seen, such as that of 72 degrees or that of 35 degrees (south of Tanbin), are probably a result of this. Westwards from the crest, dips of 12 degrees are followed by 24 degrees and 43 degrees, after which the beds plunge abruptly downwards and we have a succession of vertical or steeply dipping beds showing much distortion and irregularity with reversed dips here and there and possibly faulting. At the western Pegu-Irrawadian boundary the dip is from 60 to 65 degrees. The "Rotalia" bed is found on both sides of the fold at corresponding horizons. The thickness of Pegu beds exposed on the west works out to be the same as it is north of the Sabwet Chaung, viz., 4,125 ft.

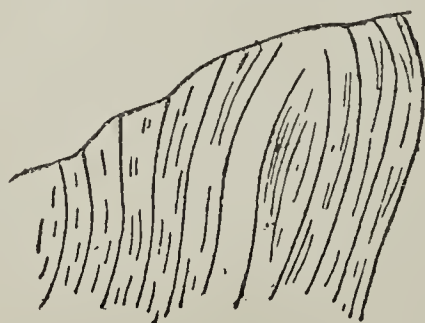
There are no natural seepages in these two blocks and the Burma Oil Company's well No. 1 was too far to the east to be of any value as a test. This area is perhaps worth further testing between the bracketed area. It is impossible to recommend any exact spot, since the depth at which oil might be expected, should oil exist here, is an entirely unknown quantity.

Traced southwards, the rhomboidal top of the fold becomes gradually replaced by a double crest, as explained in the section, of which the western twin becomes the more elevated. The first indication of this is seen in a section on the hill in the extreme south of Block 4S, immediately north of Khwematet Taung (see sketch).



About 100 ft. east of the crest there is a faint rise for about a dozen feet before the beds turn over permanently towards the east. The hill between Khwematet Taung and the road to the south includes the small shallow syncline between the two crests, and its summit is shaped accordingly. Along the road the twin crest is nicely shown. The principal or western arch has an eastern limb dipping at a maximum of 27 degrees; further eastwards the beds become horizontal and then form the western limb of the smaller eastern arch dipping westwards at a maximum angle of 16 degrees. The beds again become horizontal forming the eastern twin of the crest and 100 ft. further eastwards plunge abruptly and vertically downwards. Here the intensely abrupt change of dip, the prevalence of "slickenside" in the clays, the fracture of concretionary boulders *in situ*, and the somewhat crushed nature of the strata, give the appearance of a strike fault. All these phenomena, however, are equally attributable to intensely sharp folding, such as must exist in the interior of a fold like that of Minbu; sections showing equally abrupt change of dip in undoubted synclinal folds are seen further south. There may have been slight slipping here and there, but this particular line of disturbance which is traceable immediately east of the crest from this locality southwards is what would be expected in a deeply exposed acute fold, and need not be regarded as a fault. As will be seen later there is evidence of a strike fault of some length commencing south of the section but at a slightly higher horizon. The matter is of some importance from an oil-prospecting point of view since the "hade of the crest locus" is concerned, and

with it the position of the most desirable spot at which to bore for oil. Beds vertical or nearly so, often reversed, extend eastwards beyond the Pegu-Irrawadian boundary, which commences at Taukshabin, to the river bank. There is a considerable amount of "waving" (see sketch), and reversed dips sink as low as 50 degrees



in places. West of the principal crest dips rise from 19 to 25 to 55 degrees, and at the Ferruginous Conglomerate reach 66 degrees. It will be seen from the map and sections that it is the smaller eastern twin which is in reality the continuation of the original crest as seen at Sinle Daung. The western twin becomes more and more predominant southwards until the eastern twin merely marks the place where the beds abruptly turn over eastwards, and in Block 7S disappears.

The thickness of Pegu beds exposed west and east of the crest along the section are 4,240 ft. and 3,260 ft. respectively. We have here another case therefore where the thickness on the west is greater than it is on the east: allowing for a possible discrepancy between the horizons of the Ferruginous Conglomerate west and east, there is a difference in thickness of at least 800 to 900 ft. The increase in thickness on the west from Blocks 3S and 4S to Blocks 5S and 6S is a confirmation of dip evidence, indicating a slight general rise in the fold southwards.

There are no natural oil or gas occurrences in these blocks, but the Burma Oil Company have drilled two holes close to Khwematet Taung and have struck some oil at a depth of over 3,000 ft. in one: several "shows" of oil and gas were met with at shallower horizons in both bores.

The Mimbú anticline may be looked upon as being in many ways a more advanced phase of a Yenangyat type of fold. The difference in thickness west and east of the crest is a little less than it is at Yenangyat, the maximum discrepancy observed occurring in Blocks 17S and 18S, where it has risen to 3,260 ft. According to my suggestion that the asymmetry of these folds may be due to early faulting or the removal of beds from one flank of the anticline, we should expect the asymmetry to be less at Mimbú than it is at Yenangyat, and it is so. Like Yenangyat the Mimbú anticline has been overfolded though slightly towards the east. The moderate dip east of the "monosynclinal bend" referred to has the appearance of being due to a late phase of the movement, after the simple tight asymmetric fold had been formed, the latter being raised bodily as it were upon the crest of a gentler anticline.

(To be continued.)

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EXPORTS OF PETROLEUM PRODUCTS FROM BAKU DURING AUGUST.

THE total quantity of petroleum products exported from Baku during August amounted to 38,865,707 poods, as against 40,191,142 poods exported during August, 1912.

The following table shows the quantities of various products exported by rail, on the Caspian Sea, and by road:—

	Rail. Poods.	Exported by Caspian Sea. Poods.	Road. Poods.
Kerosene	1,307,320	5,639,738	93,530
Lubricating oil	492,300	646,279	23,927
Solar oil (Light)	32,130	92,247	—
„ (Heavy)	168,817	83,946	907
Residuals	621,913	23,291,263	36,454
Crude oil	187,106	5,932,572	9,611
Benzine	199,663	1,705	4,679
Totals	3,009,249	35,687,750	168,708

ROUMANIAN PETROLEUM PRODUCTION DURING SEPTEMBER.

THE production of crude oil in the Roumanian oilfields during September amounted to 153,000 tons, as against 153,414 tons obtained during August, thus showing a shortage of 414 tons. The production of the principal firms was as under:—

	Tons.
Steaua-Romana	32,281
Colombia	18,645
Astra-Romana	38,136
Romano-Americana	25,663
Concordia	6,493
Orion	5,577
Roumanian Consolidated Oilfields. Ltd.	6,299
International	3,437
Frank Russel	—
Secleanu Bros.... ..	—
Alpha	2,605
Aquila Franco-Romana	1,283
Trayan Roumanian Oil Co.	1,607
Nafta	2,360
B. Margulies	1,073

SURAKHANY PETROLEUM PRODUCTION.

Details for July.

THE total production of petroleum on the Surakhany oilfields during July amounted to 4,428,101 poods of black oil, 33,423 poods of white oil, and 113,629 poods of gas. The production of the various firms was as under:—

	Gas. Poods.	White Oil. Poods.	Black Oil. Poods.
Asadulaeff	—	—	9,000
Baku Petroleum Company... ..	78,074	28,835	177,220
Benkendorff Company	500	4,588	614,432
Caspian and Black Sea Society	18,555	—	676,887
Mirzoeff Bros.	16,500	—	177,800
Nobel Bros.	—	—	2,603,145
Lukke & Gaber	—	—	102,117
Rilski Trustees	—	—	58,000
Russian Petroleum Society... ..	—	—	9,500
Total	113,629	33,423	4,428,101

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„ Servian ...	6,700	New Steamer	6,200	„ Luciline ...	5,200
„ Carpathian	6,700	„ „	6,200	„ Le Coq ...	4,700
„ Roumanian	6,700	„ Terek ...	5,200	„ Rock Light...	4,100
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Company.	Share Capital.	Value of Shares.	Latest Prices.
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Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{7}{8} - \frac{15}{16}$
„ 5% Deb. Stock ...	600,000	£100	86-90
Assam Oil ...	310,000	£1	$\frac{1}{2} - \frac{2}{3}$
Baku Russian Petroleum Co.	750,000	10/-	5/6-6/0
Bibi-Eibat Oil Co. ...	250,000	10/-	8/3-9/3
European Oilfields ...	385,000	10/-	7/0-8/0
Lobitos Oilfields, Ltd. ...	400,000	£1	27/0-28/0
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{5}{8} - \frac{3}{4}$
Pacific Oilfields, Ltd. ...	250,000	£1	3/0-4/0
Roumanian Consolidated Oilfields ...	1,750,000	£1	20/6-21/6
Russian Petroleum Co. ...		10/-	4/3-4/9
Schibaieff Petroleum, new Pref. (fully paid) s/s	690,000 s/s	(fully paid)	$\frac{1}{16} - \frac{1}{12}$
„ „ new Ord.			17/6-18/6
Shell Transport and Trading	7,000,000	£1	$5\frac{1}{2} - 5\frac{3}{4}$
„ „ „	3,000,000 Pref.	£10	$10\frac{1}{4} - 10\frac{3}{8}$
Spies Petroleum Co. ...	750,000	10/-	24/0-25/0

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	736	740
Caspian Society (Issue 1910) ...	1,000	3,285	3,290
A. I. Mantascheff & Co. ...	250	770	775
Nobel Bros....	5,000	19,900	20,000
Nobel Bros. (Issue 1912) ...	250	1,016	1,020
Russian Naphtha Society ...	100	310	312
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	272	274
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	395	400

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Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
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Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	37/6
„ 6% Cum. Pref.	100,000	£10	£11½
Burmah Oil, Ord. ...	1,100,000	£1	74/3
„ Pref. ...	250,000	£1	26/0
Dalmeny Oil Co., Ord. (£7 paid)	37,800	£8 10s.	85/0
„ 5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	6/4½
Mexican Eagle Oil, Ltd., Non. Cum. Pref. ...	\$8,500,000	\$10	42/9
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	36/6
„ Pref. (£1 paid) ...	100,000	£1	22/0
Premier Oil Ord. ...	2,300,000	£1	5/10½
Pumpherstons Min. Oil Co., Ltd. Ord. (17/- paid) ..	110,500	17/-	5¾
„ 6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	7/6
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	72/3
„ „ B Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).
Dordtsche Petroleum Industrie My., Ord. ...	Aand 187
„ „ „ Pref. ...	„ 186
Royal Dutch Petroleum Co. ...	„ 635
Moeara Enim Petroleum Maatschappij ...	„ 244
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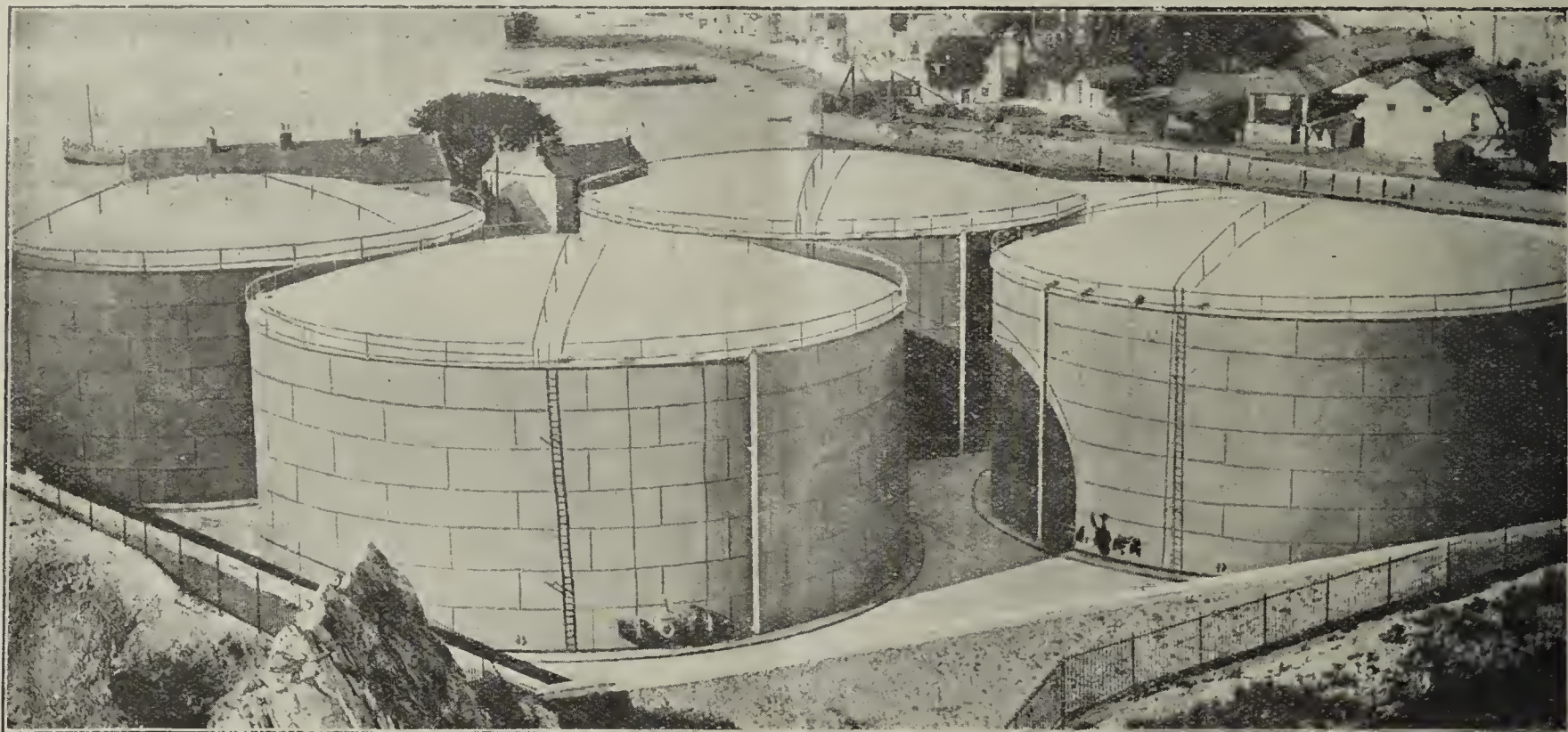
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CHIEF CONTENTS.

	PAGE
Editorial Notes	459
Production of English Companies in Russia	460
Death of Mr. E. A. Gibson	461
Peroxidised Kerosene as Motor Fuel	463
The Oilfields of Burma	465
Latest Quotations of Petroleum Shares	468
A Successful Roumanian Enterprise	471
Classified Imports into the United Kingdom	472
Notes from the Oilfields	473
American Petroleum Production during 1912	475
The Petroleum and Natural Gas Resources of Canada	477
Photographs of the Property of the Kern River Oilfields of California, Ltd.	479
Imports of Petroleum Products	480
Home and Foreign Market Intelligence	481
The American Oil Market	482
The REVIEW Shipping List	483

— THE — PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, NOVEMBER 1ST, 1913.

A SUCCESSFUL ROUMANIAN ENTERPRISE.

THE unenviable name which has for some years been associated with English enterprise in the petroleum industry of Roumania is, fortunately, dying a natural death, for recent events have proved that, like enterprises backed with the capital of other nations, English speculation in Roumania's oil industry is capable of achieving great success. We have a case in point in the Roumanian Consolidated Petroleum Company, Ltd., whose directors' report has been issued during the present week.

The report covers the period from the incorporation of the company to June 30th last, and shows a gross profit from oil wells of £75,064, refineries, etc., £34,125, and sundry receipts, £1,388. After deducting administration and general charges, £11,813, and provision for taxes (Roumania and England), £7,500, there remains a disposable balance of £91,264, out of which the

directors have wisely written off for depreciation £26,883, leaving a net balance of £64,381. With this sum the directors recommend writing off preliminary expenses, £6,635, and transferring to reserve fund £40,000, a sum of £17,746 remaining for carrying forward. The production of crude oil amounted to 64,327 tons, and was mainly derived from Moreni (Bana). Steady progress has been made with the development of the company's properties in other fields, notably those at Filipeshti de Padure, Chiciura, Campina, Tzintea and Bordeni, and it is anticipated that the production will be largely augmented from these sources in the near future.

During the period under review an aggregate depth of 31,514 ft. was drilled—a fact which shows that the Company's board are fully alive to the importance of carrying out an energetic drilling programme. The company is now commencing exploitations at Cornu, Baicoi, Pacureti and Malaesti.

The company, it will be remembered, was incorporated on May 10th, 1912, to acquire the undertakings of five British oil companies carrying on business in Roumania, the full details being announced in the REVIEW at the time. Under the purchase agreement these undertakings were taken over as at different dates prior to that date, and in the intervening periods were operated by the vendor companies on behalf of the company. During such periods (averaging about three and a-half months) the balance of expenditure over receipts amounted to £4,674, which has been carried to property account. Soon after the statutory meeting, which was held in July, 1912, a sixth company, Moreni (Roumania) Oilfields, Ltd., was taken over on terms approved by the shareholders at that meeting, and in May, 1913, the Moreni Pipeline and Transport Company, Ltd., agreed to sell its undertaking to the company, but the shares issued in respect of the last-mentioned purchase were not allotted until after June 30th. The properties taken over from the vendor companies are very extensive, and include territory in almost every oilfield of Roumania, there being over 2,000 separate parcels of land. As a necessary consequence, several months elapsed before effective possession could be secured. The accounts now presented, therefore, do not represent a complete year under the direct control of the company, and in this connection it is worthy of remark that some of the vendor companies had made forward contracts for the sale of their production, which prevented the company

obtaining the full advantage of the comparatively high prices current. The company only obtained official recognition in Roumania on March 20th of the present year, and since that date all the properties have been registered in its name. By an agreement dated June 30th, 1913, the company's lands in the Chiciura-Gropi-Toncesti field, about 91½ hectares (225 acres) in extent, have been sold to Chiciura Oilfields of Roumania, Ltd., for £150,000, payable in fully paid £1 shares.

The company's refinery at Targoviste has been maintained in a state of efficiency, and sundry alterations have been carried out which will combine increased output with economy of working, notably the introduction of a system of preheaters and the installation of a new rectifying plant. Additional tank wagons have been purchased for the service of this refinery, which is connected by the company's own pipeline with the Moreni (Bana) field.

During the period under review the company has purchased the Prahova refinery at Ploeshti, together with thirty acres of freehold land, including pipeline connection to a new siding and loading station on the railway, while by means of the Moreni Pipeline and Transport Company's system (now the property of the company) the refinery is also coupled up with Moreni.

That the Roumanian Consolidated Petroleum Company is not allowing opportunities to pass is seen from the fact that in view of the construction of the Government pipelines to the export port of Constanza, it has secured storage and shipping facilities at that port, and a freehold site has been purchased in close proximity to the harbour, which will provide accommodation for the necessary tankage, pipelines and railway sidings.

In a word, the shareholders have every reason to be satisfied with the success so far achieved, and if for the time being dividends are withheld, it is but the carrying out of a well-advised conservative policy, which will, in time to come, materially benefit the shareholders.

CASUALTIES TO OIL-TANKERS.

OWING to the recent rough weather at sea several oil-tankers have met with mishap. The "Lucerna" at Constantinople dragged her anchor and collided with a German man-of-war, both boats being damaged. The "Mexican Prince" and the "Trocas" grounded, but sustained little damage. The "San Fraternal," after colliding with the wharf at Bahia Blanca, was little the worse; but the "Mina Brea" has proceeded to dry-dock with bottom badly indented. The "Lucigen" has been damaged through collision at Baltimore.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO OCTOBER 27th, 1913.

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IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Oct. 20.	From Jan. 1.	Since Oct. 20.	From Jan. 1.	Since Oct. 20.	From Jan. 1.	Since Oct. 20.	From Jan. 1.	Since Oct. 20.	From Jan. 1.	Since Oct. 20.	From Jan. 1.	Since Oct. 20.	From Jan. 1.	Since Oct. 20.	From Jan. 1.
Belgium ..	—	250	10,290	608,163	—	—	—	—	6,720	43,290	—	120	—	4,910	17,010	667,733
Canada ..	—	—	—	7,040	5,200	54,050	—	—	—	—	—	—	—	—	5,200	61,090
Dutch Indies ..	—	—	—	—	—	—	—	—	1,180,000	35,693,450	—	299,497	—	—	1,180,000	35,992,947
Germany ..	—	208,220	33,030	2,819,230	—	600	—	159,710	—	51,640	—	400	—	4,610	33,030	3,244,410
Holland ..	—	—	160	9,370	—	—	—	—	—	6,348,340	—	—	—	590	50,160	6,358,300
Mexico ..	1,550	5,753,800	—	—	—	—	—	1,038,280	—	1,528,800	—	12,812,160	—	—	1,550	21,133,040
Roumania ..	—	16,509,357	—	—	—	—	—	1,150,000	—	2,981,830	—	9,027,540	—	—	—	29,668,727
Russia ..	—	9,844,560	2,000	11,404,290	—	393,390	—	—	—	11,889,350	—	—	—	—	2,000	33,531,590
U.S.A. ..	2,178,000	98,216,066	334,260	39,840,384	2,600	212,780	1,807,000	51,690,810	—	19,957,470	82,200	4,750,880	10,870	808,925	4,414,930	215,477,315
Other Countries	—	80	5,760	129,090	—	480	—	—	—	4,859,240	—	62,870	—	1,460	5,760	5,053,220
	2,179,550	130,532,333	385,500	54,817,567	7,800	661,300	1,807,000	54,038,800	1,236,720	83,353,410	82,200	26,953,467	10,870	820,495	5,709,640	351,188,372

NOTES FROM THE OILFIELDS.

AMERICAN.

Another New Pipeline.—The Standard Oil Company is busily engaged upon the construction of a new pipeline from the fields of Whittier and Coyote, California, to its new refinery at El Segundo.

Prices.—Prices for crude oil and all petroleum products remain firm, but recent quotations are unchanged, crude oil of high quality commanding \$2.50 per barrel. A year ago similar oil could have been purchased for a trifle under \$1.50 per barrel.

A New Tanker.—The Union Oil Company has purchased the four-masted steel ship "Erskine M. Phelps" for conversion to an oil-tanker. When the alterations are completed the vessel will have a capacity of 114,000 gallons of petroleum products.

Exports.—So far during the present year there has been a decline in the motor spirit exports of about 25,000,000 gallons, and in lamp oils of 11,000,000 gallons, but crude oils have increased by 30,000,000 gallons and fuel oils by nearly 40,000,000 gallons. Gas oil exports have been cut in half.

New Canadian Companies.—The following new oil companies were incorporated under the laws of Alberta, Canada, during September:—Peerless Oil Works (\$50,000); Southern Alberta Oil Company (\$100,000); Paraffin Oil Company (\$500,000); Western Canada Oil Company (\$75,000); Rocky Mountains Oilfields, Ltd. (\$100,000).

A Canadian-American Pipeline.—The new pipeline between the Imperial Oil Works in Sarnia, Ontario, and the Lima Oilfields in Ohio is now completed. The line is 154 miles in length and is laid under two rivers. It is estimated that after oil has been pumped into the line in the Ohio fields it will take it five days to reach the Sarnia refinery.

The "San Gregorio's" First Cargo.—On the 4th inst. the world's largest oil-tanker—the "San Gregorio"—left Staten Island with her first oil cargo. She is proceeding to Rotterdam with 14,200 tons of refined oils under charter to the Standard Oil Company. The huge cargo was loaded in about sixteen hours. The tanker carries about 500 tons more than the "San Fraterno," her sister ship.

The National Refining Company has recently completed a new pipeline for its subsidiary—the Canadian Refining Company, Ltd.—from Broomfield on the River St. Clair to Petrolea, Ontario, a distance of thirty-five miles. The line will be used to transport oil from the American barges to the Canadian side and thence it will be pumped to the refining plant, the capacity of which is now being increased.

RUSSIAN.

The Fuel Famine.—The fuel famine has now spread from petroleum to coal. Some large firms have already sold their production for the next two years. The price of coal is rapidly rising, and industries depending on fuel are naturally suffering.

State Production of Petroleum.—The Ministry of Trade and Industry has not yet decided the way of producing its own petroleum. It may undertake its own boring and production, or it may give this over to contractors. It appears the Ministry is inclined to accept the second alternative. If the fuel crisis becomes more acute the Ministry will have to allow the import of foreign coal, duty free.

Organisation of a Company for the Exploitation of Petroleum Deposits by Railways.—On September 30th last a meeting of a committee of the Ministry of Ways and Communications took place at St. Petersburg, at which was discussed the question of organising a special company for the exploitation of coal and petroleum deposits by the railways, and also the question of the leasing of petroleum plots at Baku and Grosny by the State to private railways.

Organisation of State Petroleum Production.—The organisation of State petroleum production by the Ministry of Trade and Industry will cost the Treasury about 14,000,000 roubles. It is intended to carry out work on an area of 45 dessiatines of petroliferous land, and the yearly production is expected to amount to 20,000,000 poods. The whole of the oil will enter into treasure depots, and will be refined by the State itself. The residuals

obtained will be used for the needs of the State, while all other products will be sold.

Fuel Committee.—A special committee is to be appointed in order to obtain statistical information regarding the quantity of various kinds of fuel consumed within the limits of European Russia by the population for domestic purposes, as well as for industrial purposes and also by the railways and shipping companies. The committee will also settle what number of hands it will be necessary to employ in the coal mines and on the petroleum fields, and what quantity of timber will be necessary for the production of coal and petroleum during the next five years. At the same time the committee will investigate the question of the transport capacity of the railways and shipping companies, and also the various transport tariffs.

Liquid Fuel Complaints.—The number of complaints addressed to the Ministry of Trade and Industry of the scarcity of liquid fuel and high prices is rapidly increasing. Everywhere the fuel famine is acutely felt. The opening of the frontiers of foreign petroleum residuals has apparently not justified the hopes of a reduction in the prices of petroleum and fuel, and there is scarcely any hope even for the import of foreign petroleum at high prices as the railway tariffs are prohibitive. The Ministry is at present entertaining another measure, viz., to render the export of Russian petroleum abroad difficult. For this purpose it intends to establish a special tariff for the pumping over of petroleum for export. As regards the organisation of the State production of petroleum this is a question which will be solved in the course of several years, and thus the famine, as yet, has no apparent end.

ROUMANIAN.

Exportation.—Exportation has not yet reached its proper level, and some time must pass before it will become normal.

Romana - Americana.—The production of this company averages 900 tons a day, of which 850 tons are produced at Moreni, 20 tons at Bushtenari-Gropi, 20 tons at Baicoi, and 10 tons at Tetzcani.

Prices.—The prices of crude oil are increasing. The small refiners continue to pay high prices in order to be able to execute their contracts for the inner markets. Prices of products are stationary, although residuals are in great demand.

Astra - Romana.—The production of this company now averages 1,328 tons a day, of which 1,043 tons are obtained at Stavropoleos, 138 tons at Bana, 531 tons at Campina, 91 tons at Filipeshti, and the remainder at Baicoi and Glodeni.

Petroles de Roumanie.—At the general meeting of this company, held at the end of last month at Antwerp, it was decided to transfer the whole profits for the year to the amortisation fund instead of distributing a part of it to the shareholders as was previously arranged.

Moreni.—The production at Moreni continues to be very good. Well No. 1 of the Colombia Company, as well as No. 8 of the Romana-Americana, continue to produce 400 to 500 tons a day each. The production of the famous "Colombia" well up to October 1st (o.s.) was 386,500 tons.

Production.—The general production is maintained at an average of about 5,700 tons a day. The Orion Company has been very successful with its well No. 203 at Gropi, which yields by regular eruptions from 300 to 500 tons a day, while the well at Bana, which struck oil, promises a good yield.

Steaua-Romana.—The production of this company during last week has averaged 1,113 tons a day, of which 407 tons were obtained at Campina, and 206 tons at Policiori. Regular eruptions were registered in well No. 160 at Gahitza, with 30 tons a day, also at Moreni, with 12 tons a day, and well No. 232 at Runcu, with 6 tons a day.

The Orion Company.—The production of this company has registered a very important increase owing to the success obtained at Tzintea, Gropi and Bana. At Tzintea the production is from 200 to 250 tons a day, but a considerable increase is expected there, as two wells are quite close to the petroleum strata. At Bana a sponser has recommenced with such force that the derrick has been totally destroyed. After yielding 530 tons the well became blocked with sand.

THE BAKU PETROLEUM INDUSTRY.

Statistics for the Nine Months.

THE production of crude oil on the four old areas at Baku during September amounted to 30,200,000 poods. The total production during the nine months has amounted to 291,000,000 poods, as against 308,700,000 poods obtained during the corresponding period of 1912, 321,400,000 poods in 1911, and 364,700,000 poods in 1910. Thus the production during the nine months of the present year has considerably decreased, viz., by 17,700,000 poods, or 5·7 per cent., in comparison with the production during the corresponding period of 1912. During the same period the production at Surakhany amounted to 28,964,000 poods, as against 23,377,000 poods obtained during the nine months of 1912, and 12,353,000 poods obtained during the nine months of 1911. Thus the production at Surakhany during the nine months of 1913 shows an increase of 5,587,000 poods, or about 24 per cent. against 1912; but even this considerable increase in the Surakhany production cannot, of course, compensate the fall in the production on the old Baku areas, and there is, therefore, a great deficiency felt in oil on the market.

Notwithstanding this, after the considerable rise in prices at Baku, which took place during the first half of September, there was an important decrease during the second half of the month. Thus on September 17th the prices of crude oil at Baku were 57-57½ copecs per pood, while on the 21st of the same month they were 52-53½ copecs, and on September 24th, a week later, they went down to 43 copecs per pood. Since then the situation has become a little firmer and the prices have again increased, but only to 47-47½ copecs. This weakening in the market can only be connected with the approach of the close of the navigation, at which time there is usually a fall in prices at Baku. The only difference is that this fall has taken place rather sooner than usual, but this can be explained by the fact that consumers have no faith in the steadiness of the market, and have made themselves secure with their supplies much earlier than usual.

MAIKOP PETROLEUM PRODUCTION DURING AUGUST.

THE production of petroleum on the Maikop during August was as under :—

Plot.		Production. Poods.	Number of wells.	Average depth in feet.
3	Black Sea Company ..	131,311	48	346
30	British Maikop Com- pany	60,128	6	639
21	Maikop Premier Oil Company	54,398	2	896
170	Andreas	44,360	2	794
202	Maikop Victory ..	41,363	30	597
16	Andreas	35,909	39	291
13	Andreas	8,647	1	987
42A	Maikop-Enema Com- pany	3,840	3	326
130	London and Maikop Corporation ..	1,316	2	1,038
34	Black Sea Company ..	934	2	563
193	Maikop Areas Company	852	2	945
45	Andreas	4,422	1	2,273
1	Black Sea Company ..	376	2	339
155	Pekhovski	216	2	630

The total production during the month thus amounted to 385,092 poods, as against 384,120 poods for the previous month, that is to say, it is practically stationary. The production for the eight months of the present year has amounted to 3,332,058 poods. The average daily productivity per well is 98 poods.

The Debts of the Petroleum Producers.—According to the statistical table prepared by a special committee of the Russian Ministry of Finance, the total indebtedness of the petroleum producers of the Baku district to the treasury for advances made to them by the Government during 1905, 1906 and 1907 amounts to 12,388,540 roubles. The largest part of this has been paid, and there was left unpaid on January 1st of this year a sum of 3,413,923 roubles.

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American Petroleum Production during 1912.

An Exhaustive
and Important
Bulletin.

Dr. DAVID T. DAY'S OFFICIAL REPORT.

(Continued from page 152.)

THE ILLINOIS OILFIELD.

THE quantity of oil produced in 1912 declined to 28,601,308 barrels from 31,317,038 barrels in 1911, or 8.67 per cent. This was a somewhat higher rate of decline than in 1911 (5.51 per cent.). It is, however, too soon to speak of a definite rate of decline for Illinois. The maximum product was 33,686,238 barrels in 1908, and, after a drop in the following year to 30,898,339 barrels, the further addition of new territory brought the product back to 33,143,362 barrels in 1910—almost the maximum. The decline will, of course, continue if no further great extensions of producing territory are developed, but it should be noted that the extensions to the south in Lawrence county have developed deep territory with good staying quality, in which, after the first drop in production, the settled yield may be expected to decline at a low rate. Meantime, the probable areas are large in Illinois, where wildcatting is more than ordinarily worth while. Further the State profits by a State Geological Survey of such energy and so well equipped for economic work that it has already been of great value in extending the oil resources, and this factor will undoubtedly increase

compared with 63 barrels in 1911, owing to the larger proportion of drilling being done in Lawrence county. The production of petroleum in Illinois from 1908 to 1912, by months, in barrels, is here given :

Month.	1908.	1909.	1910.	1911.	1912.
January ..	2,703,973	2,668,607	2,640,303	2,578,579	2,241,867
February ..	2,572,115	2,510,518	2,353,684	2,373,229	2,262,140
March ..	2,825,191	2,757,794	2,865,055	2,790,515	2,369,428
April ..	3,219,690	2,562,215	2,776,800	2,560,963	2,351,693
May ..	3,223,515	2,829,277	2,860,760	2,731,965	2,535,039
June ..	3,081,848	2,670,549	2,746,620	2,634,521	2,503,038
July ..	2,693,288	2,728,857	3,029,787	2,710,651	2,698,582
August ..	2,808,667	2,719,958	3,007,151	2,770,916	2,519,651
September ..	2,675,385	1,902,197	2,850,119	2,615,120	2,366,712
October ..	2,709,913	2,560,072	2,768,750	2,638,927	4,424,472
November ..	2,479,926	2,497,847	2,629,132	2,400,670	2,174,856
December ..	2,662,427	2,490,418	2,615,201	2,480,949	2,153,530
Total ..	33,686,238	30,898,339	33,143,362	31,317,038	28,601,380

MID-CONTINENT OILFIELD.

The output of the Mid-Continent field as a whole decreased in 1912 by more than 1,000,000 barrels, while the total value of the product showed a marked increase, due to the rapid rise in the price of oil during the year. The decline in production was due to the decrease in Oklahoma and Kansas, which was not compensated by the increase in Texas and the Caddo field, though these sections showed a gain over 1911. The production of petroleum in the Mid-Continent field in 1911 and 1912, by months, in barrels, is seen from the following table :

Month.	1911.					1912.				
	Kansas.	Oklahoma.	Texas.	Caddo, La.	Total.	Kansas.	Oklahoma.	Texas.	Caddo, La.	Total.
January ..	90,735	4,257,613	133,726	437,546	4,919,620	100,228	3,992,225	312,319	550,691	4,955,463
February ..	88,894	4,124,124	121,837	348,683	4,683,538	108,160	3,836,382	304,397	646,488	4,895,427
March ..	107,551	6,364,165	133,543	475,387	7,080,646	115,833	4,075,506	383,966	583,518	5,158,823
April ..	96,325	5,293,826	131,772	430,159	5,952,082	120,297	3,929,944	394,327	700,594	5,145,162
May ..	101,632	4,938,354	128,052	574,203	5,742,241	131,757	4,288,801	469,802	648,826	5,539,186
June ..	103,967	4,679,055	123,998	677,403	5,584,423	129,488	4,012,952	427,967	617,267	5,187,674
July ..	98,464	4,551,829	127,098	711,012	5,488,403	141,777	4,364,329	458,701	592,223	5,557,030
August ..	112,951	4,503,521	170,524	599,157	5,386,153	148,783	4,619,251	454,533	583,805	5,806,372
September ..	113,553	4,418,832	202,937	731,306	5,466,638	144,672	4,342,560	465,039	593,422	5,545,693
October ..	119,705	4,473,220	296,187	791,868	5,680,980	152,915	4,861,029	535,919	562,616	6,113,379
November ..	131,188	4,222,738	346,093	652,675	5,352,694	131,844	4,429,295	529,783	550,887	5,641,809
December ..	113,854	4,242,360	335,426	566,429	5,258,069	167,042	4,673,897	538,776	547,612	5,927,327
Total ..	1,278,819	56,069,637	2,251,193	6,995,828	66,595,477	1,592,796	51,427,071	5,275,529	7,177,949	65,473,345

the ultimate yield of the State. Illinois shared in the general advance in prices for oil in 1912, the average price for the year rising from 63 cents to 85.1 cents per barrel, and making the total value for the year \$24,332,605, or 23.3 per cent. greater than the value for the larger product of 1911.

Chief interest in field extension centred in Wabash county, the logical extension of the deep field in Lawrence county. In August a well, good for 600 barrels a day, was drilled on the Adam Biehl farm, near Allendale, Wabash township, Wabash county. This caused a great rush of capital, and the drilling of over 40 wells before the end of the year, 13 of these wells yielding each over 100 barrels or more a day, but 20 were dry. This large percentage of dry holes called attention to the analogy of the Carlyle and Sandoval pools, and—enthusiasm abated.

The average initial daily production of the new wells drilled in Illinois in 1912 increased to 67 barrels,

OKLAHOMA.

The decline in stocks in Oklahoma, which began at the close of 1911, continued throughout 1912, with corresponding increase in prices and activity in drilling. In April, A. Malarkey, in deepening an old well south-west of Cleveland, Pawnee county, obtained a good flow. Similar drilling by the Paova, Gypsy, Milliken, and other oil companies, was successful in obtaining wells yielding from 75 to 1,500 barrels a day from the Cleveland sand, which is thought by some to be near the Bartlesville sand. An oil pool of even greater interest was developed by the drilling of a well ten miles east of Cushing, in Creek county, by Slick & Jones, which yielded 150 barrels a day in a sand found at 2,181 ft. Two miles east of this Wrightsman & Jones drilled into the sand at 2,185 ft., and obtained a gas well yielding 5,000,000 cubic ft. a day. This stimulated drilling, which has developed a pool rivalling the old Glenn pool in interest. In addition to two develop-

ments in Osage and Kay counties, the shallow sand of Nowata county was extended considerably to the west. Additional developments of natural gas were made in the neighbourhood of Poteau; and additional gas wells obtained in the vicinity of Dunean, in Stephens county, gave further interest to that locality. The outlook at the end of 1912 was for very active wild-cattling in many portions of the State, as well as much greater development of the proved areas.

Production.—Oklahoma's production of petroleum in 1911 was 56,069,637 barrels; in 1912 it was 51,427,071 barrels, a decrease of 4,642,566 barrels, or 8.28 per cent.

The following table shows the production and sales of petroleum in Oklahoma from 1908 to 1912:

	1908.	1909.	1910.	1911.	1912.
Quantity shipped from Glenn pool and sold	20,494,313	18,946,740	19,236,914	13,880,118	10,405,518
Quantity piped from other wells in Oklahoma and sold ..	25,012,423	28,330,313	32,124,072	41,783,947	40,732,128
Rail shipments (outside Glenn pool) in Oklahoma ..	292,029	582,165	667,732	405,572	189,425
Total sales in Oklahoma	45,798,765	47,859,218	52,028,718	56,069,637	51,427,071
Total value	\$17,694,843	\$17,428,990	\$19,922,660	\$26,451,767	\$34,672,604

GULF OILFIELD.

For twelve years the Gulf Coast region has been of importance in the oil industry, because of furnishing a peculiar asphaltic oil, which has some of the characteristics of Russian oil. The oil occurs in connection with salt domes, thus far peculiar to the Gulf region. This condition finds its nearest analogue in the accumulations of oil associated with igneous masses near the Gulf Coast in Mexico. The Gulf oil served first an important purpose in developing a satisfactory fuel supply for railroads, and for manufacturing enterprises in the Gulf region. Then it was found practicable

to refine it. Later, when the advent of Oklahoma oil by pipelines to the Gulf Coast brought an oil superior for refining, the Gulf oil took the initiative in furnishing the asphaltic oil residues, which have been an essential element in the great development of good roads.

Production of these Gulf oils was sensationally great in the first part of the last decade—in one year the product was over one-fourth of the oil supply of the United States. Then came a decline unusually, even alarmingly, sudden. It greatly discouraged development work. Fortunately, the course of the field is now less erratic, and the combined product for Louisiana and Texas was, in 1912, 8,545,018 barrels, a decline of 22.32 per cent. from 1911. This is a sufficiently satisfactory condition to admit of continued exploitation of the region. In fact, there is probability of finding new domes, with a consequent increase in production—as was the case in 1911. The production

of petroleum in the Gulf field in 1911 and 1912, by months, in barrels, was as under:

Month.	1911.			1912.		
	Coastal Texas.	Coastal Louisiana.	Total.	Coastal Texas.	Coastal Louisiana.	Total.
January ..	719,658	361,268	1,080,926	552,107	165,831	717,938
February ..	598,737	681,407	1,280,144	555,497	186,345	741,842
March ..	642,955	641,020	1,283,975	620,837	163,893	784,730
April ..	647,974	356,730	1,004,704	592,677	159,906	752,583
May ..	662,811	322,264	985,075	552,391	155,375	707,766
June ..	617,501	231,109	848,610	539,930	144,280	684,210
July ..	612,345	210,156	822,501	539,020	174,892	713,912
August ..	594,898	182,608	777,506	519,809	180,835	700,644
September ..	559,787	191,075	750,862	526,915	148,138	675,053
October ..	558,752	199,569	758,321	511,058	159,474	670,532
November ..	519,812	151,966	671,778	472,490	211,851	684,341
December ..	540,051	195,420	735,471	476,797	234,670	711,467
Total ..	7,275,281	3,724,592	10,999,873	6,459,528	2,085,490	8,545,018

(To be continued.)

Galizische-Karpathen Petroleum Actien Gesellschaft

(Late BERGHEIM & MacGARVEY.)

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Combination Rotary and Percussion Outfits.

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Sharp & Hughes' Patent Drilling Bits,
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ALL THESE MACHINES are in use on our own mines, which ensures Customers getting the benefit of our experience in supplying the Latest Improvements, Best Material and Workmanship in all our manufactures.

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G. W. MANCELL, 9, Martin's Lane, Cannon Street, London, E.C.

Telephone: BANK 5854.

Telegrams: “OMACERN, LONDON.”

The Petroleum and Natural Gas Resources of Canada.

By Messrs. FREDERICK G. CLAPP and L. G. HUNTLEY.

*An Informative -
Summarised - -
Report. - - -*

(Continued from page 150.)

Not all of the wells in the far north are so situated as to be absolutely futile. For example, a well drilling 80 ft. west of the old Geological Survey well at Pelican, on the Athabaska river, struck several good flows of gas; but of less volume than the first well. The old well is capped and used to furnish fuel for drilling purposes, and the present hole is being continued in hope of finding oil below the limestone, the gas having been cased off.

In June, 1912, fifteen or sixteen holes had been drilled between Athabaska Landing and Fort McKay, but no oil had been produced in commercial quantity. A number of companies formed for the exploitation of asphalt claims in this district have their headquarters in Edmonton, but as the lack of transportation facilities up to the present time has prevented the handling of such bulky material, their operations have consisted principally in stock-selling. The building of a railway to Fort McMurray, however, would make these deposits of considerable value for many purposes. A number of drilling outfits went north during the past summer to commence operations.

The first exposure of Devonian limestone observed south of Lake Athabaska, occurs some 10 miles below the mouth of the Calumet river, and from near this point "tar sands," of an estimated thickness of from 50 to 250 ft., outcrop for many miles along the Athabaska river. The limestone, dipping to the south, disappears beneath the river near Crooked rapid, and the "tar sand," likewise dipping below the surface near Boiler rapids, probably constitutes the reservoir which contains the gas encountered at Pelican rapids. Continuing to dip southward, this formation lies at a depth of about 3,000 ft. at Morinville, and near Calgary reaches an estimated depth of 5,000 ft. What is supposed to be the same sand has been discovered as the principal gas-bearing formation of southern Alberta, and in drilling for oil this horizon is the one desired by operators.

The government gas well, drilled at Pelican Rapids in 1897, still has a pressure reported as about 500 lbs. The gas is used as fuel for drilling purposes. The well which is being drilled at present, 80 ft. west of the old well, struck gas both in what was believed to be the Niobrara formation and also in the Dakota sand, but the gas was cased off and drilling continued in hope of finding oil.

The government test well at Athabaska Landing still shows a little gas bubbling through a hole full of water although it never produced gas in any quantity, and did not reach the Dakota formation. The well which has been drilling at Morinville for the past five years has reached a depth of about 3,500 ft., and has found as yet only a small showing of gas in the upper part of the well. A dry hole was drilled some years ago at Edmonton to a depth of approximately 1,900 ft.

On June 18th, 1912, a test drilled by the municipality of Tofield, 35 miles south-east of Edmonton, struck a small flow of gas, about 800,000 cubic ft., at a depth of 1,051 ft., without reaching the Dakota sandstone. A second well is now being drilled for the municipality. The success of the drilling at Tofield has led to the starting of a well by the town of Vegreville, about the same distance due east of Edmonton.

Development and drilling along the Athabaska river has been upon Government land. The expense of drilling, which is very great on account of the necessity of establishing camps, and of the cost of transportation in this district, has made it difficult for an inexperienced man, or one with small capital, to operate, most of the drilling being done by stock companies. A well on the Athabaska had already cost about \$25,000 at a depth of 1,400 ft., and the end was not in sight. Both United States Standard and Canadian Standard rigs are used, with 72 ft. and 56 ft. derricks respectively. A number of second-hand pole-tool rigs have also been taken into the north country. Drilling for gas at Morinville, Edmonton, Tofield, and Vegreville is all done by means of United States Standard rigs, and operated, as a rule, by drillers from the United States.

The second well at Tofield is reported to have been contracted for at a rate of \$10 per foot of depth, for a depth of 2,000 ft. Owing to the large tracts of land controlled by the railways and by various developments, companies, drilling will probably be done largely by such concerns, or by municipalities for local use, as is the case in the Medicine Hat and Bow Island districts.

The high cost of drilling in these fields is also partly accounted for by the necessity of casing to the bottom of the hole, on account of the caving nature of the formation passed through. This necessitates a very large hole, several strings of heavy casing of different sizes, and the long tedious work of "under-reaming." The high salaries which must be paid to drillers in these fields is also an added factor in the expense.

Owing to the factors mentioned, combined with the great depth of hole necessary to test the Dakota or Niobrara formations in the belt situated between the gas development and the mountains, which in Alberta is the territory where oil supposedly will be found, this territory has remained practically untested. Several holes have been drilled at Calgary, resulting in only small quantities of gas, although none were of sufficient depth to test the strata which are productive at Bow Island, and to which the great asphalt seepages along the Athabaska river probably owe their origin.

The crest of the main arch of the formations passes about 100 miles east of Edmonton, and appears to cross the Athabaska river in the vicinity of Crooked rapids. Medicine Hat and Bow Island lie near this crest, while Calgary and Edmonton are situated in a great trough which parallels the mountains. Dr. Eugene Coste

calculates that to test the Dakota sand at Calgary would require a well approximately 5,000 ft. in depth. As to whether the principal gas horizon is saturated with salt water in the bottom of this structural depression, and, if so, how far up the eastern slope the water extends, is a matter which can only be determined by the drill. The history of most oil and gas fields of the world has shown that the "pay" formations contained large quantities of salt water in their lowest depressions, the oil pools occurring along the anticlinal flanks above the saturated zone, and being in turn bordered by the main gas pools higher on the slope of the anticlines.

While the foregoing remarks are intended to apply to the west side of the principal west Canada anticline, they will apply also to its eastern slope. Therefore, drilling in Saskatchewan, if conducted systematically at points recommended by an expert after a study of local geological structure and other conditions, may be expected to result in the development of petroleum in some localities. Meanwhile the rapid increase in population in Alberta is rendering necessary the development of the central gas belt stretching northward from Medicine Hat towards the Athabaska.

No oil or gas in commercial quantity has been developed in British Columbia. From a well drilled at the entrance of Otard bay on Graham island in the Queen Charlotte group of islands, a showing of oil and gas was encountered near the bottom of the hole, which in June, 1912, was between 600 and 700 ft. deep. In this district much tar-impregnated limestone is exposed, but no oil production has been developed. Several dry holes were drilled in other localities at various dates.

While several wells have been drilled in the southern part of Manitoba, yet no oil or gas in commercial quantity has ever been discovered in this Province.

Several borings were made years ago in the vicinity of Regina in the Province of Saskatchewan, ranging from 100 to 1,550 ft. in depth, but accomplished no results except obtaining a small show of gas and large amounts of salt water. A well drilled at Moosejaw in 1911 reached a depth of 1,200 ft., and developed a small show of gas, but this likewise was discontinued on account of salt water. Land was leased in 1911 at Saskatoon and vicinity, and in the early part of 1912 a well was being drilled to test that territory. The tar seepages on Buffalo lake have been known for years, but reports of high grade oil north of Prince Albert have lacked confirmation. However, during the summer of 1911 a well was drilled by a lumbering firm operating about 120 miles north of Moosejaw on the Canadian Pacific railway. The well was drilled to a depth of 1,730 feet, and encountered a very good showing of dark oil at this depth in a coarse sandstone.

If an oil-bearing zone lies to the east of the anticline on which the main Alberta gas belt exists, it must be situated to a large extent in western Saskatchewan. Since the formations which are found saturated with salt water in wells drilled at Regina and Moosejaw appear to limit the probability of oil existing east of those cities, prospecting between them and the Alberta border probably offers the best chance for the operator.

The principal Alberta anticline may be explained as similar in structure in some respects to the well-known Cincinnati anticline which lies west of the Appalachian

mountains in Ohio and Indiana. While the higher portions of certain porous strata along that anticline held great gas-fields, the same strata somewhat away from the anticlinal domes have yielded large oil pools.

In 1896 and 1897 and previous to those years, numerous wells were sunk on Gaspé peninsula for oil, the holes ranging in depth from a few hundred feet to an extreme of 2,700 ft. The numerous surface indications and the small showings of oils in wells, resulted in no production of commercial value and the field was abandoned. The area in which boring has been done extends in a north-westerly direction from Seal cove, on the north side of Gaspé bay, to Falls brook on a branch of York river, 33 miles distant. Upwards of fifty-two wells were drilled, the best of them having had an initial production of 24 barrels per day. There has been no oil development elsewhere in the Province of Quebec.

Surface seepages containing gas in the vicinity of Three Rivers, Nicolet, and a few other localities in the Province, led to early drilling in search of their source. A few small gas wells were discovered, and at one time, in 1899, the production amounted to 55,000 or 60,000 cubic ft. per day. The wells ranged in depth from less than 100 ft. to 1,100 ft., extending into the Hudson River shales. At a later date other wells were drilled at St. Barnabé, and the gas was piped to supply the town of Three Rivers. Its installation in a factory, however, exhausted the gas and the field was abandoned in 1907.

Wells of small value have been reported at various times at Three Rivers, St. Barnabé, Yamachiche, Louisville, Nicolet, and St. Gregoire. Numerous tests have been drilled at Montreal and neighbouring localities, but none have developed gas sufficient to supply more than single houses. A test was drilled a few years ago at Laprairie to a depth of 2,700 ft., while another was drilled at St. Geneviève two years ago to a depth of 1,800 ft. or more, neither producing oil or gas. The Province of Quebec gives no indication at the present time of developing fields of either petroleum or natural gas.

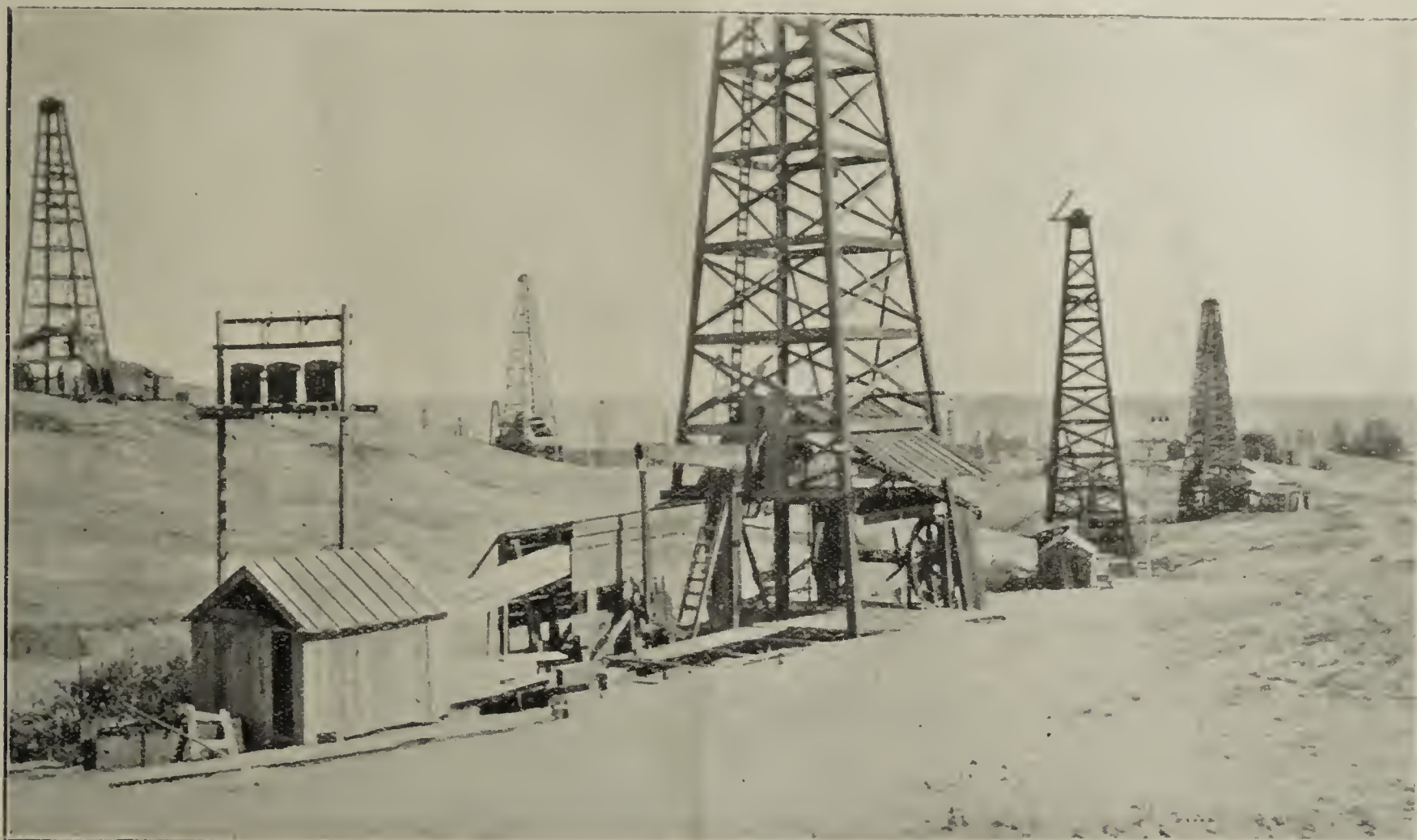
In New Brunswick the Maritime Oilfields, Ltd., has continued drilling, and has brought in some gas wells of large volume, which are piped to supply Moncton, a city of 12,000 inhabitants. The field is one of considerable promise, and the company mentioned has a lease of 99 years on 10,000 square miles of supposed oil and gas territory. This company has taken over the holdings of the New Brunswick Petroleum Company. The first gas went through the line on March 23rd, 1912, and Moncton is the only city in New Brunswick supplied with natural gas, although the gas is piped to the village of Hillsborough.

The development lies in the vicinity of Stony Creek. In July, 1912, there were fifteen productive wells in the field, fourteen of which produced gas. Several are pumping oil to the amount of one barrel or so per day, most of which is found near the east side of the belt. Twenty-five wells have been drilled in all. The production of the gas wells runs as high as 6,000,000 cubic ft. per day, and one well had an initial production of 12,000,000. The present production of the field is reported to be 58,000,000 cubic ft. of gas per day. The rock pressure runs as high as 500 lbs.

(To be concluded.)

Photographs of the Property of the Kern River Oilfields of California, Limited.

A descriptive article dealing with this Company appeared in the last issue of the "Review."



A Corner of the Property, showing Electric Pumping Plant.



A Comprehensive View of the Company's Kern Properties.

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IMPORTS OF PETROLEUM PRODUCTS INTO THE UNITED KINGDOM.

Specially prepared for this Journal by the Customs House.

FOR THE WEEK ENDED OCTOBER 27TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
Oct. LONDON—				
1	Bowring Petroleum Co.	Lamp	1,550	P. Mexico
10	British Petroleum Co.	Fuel	42,100	Port Arthur
10	"	"	17,800	N. Orleans
10	"	"	22,300	Port Arthur
21	Asiatic Petroleum Co.	Benzine	1,180,000	P. Samboe
21	Motor Petrol Association	"	4,080	Brussels
21	Langley, Smith & Co.	Lub.	2,210	New York
21	R. F. Lucas & Co.	Lub. Gr.	270	"
21	Produce Brokers Co.	Lub.	5,200	Baltimore
22	Langley, Smith & Co.	"	220	New York
22	Gerhard & Hey	"	360	"
22	Mordaunt Bros.	"	2,100	"
22	Anglo-American Oil Co.	"	6,000	"
22	Lubricating & Fuel Oils Co.	"	27,680	"
22	"	"	2,670	Baltimore
22	"	"	3,080	N. Orleans
23	Schliemann Oil, etc., Co.	Lub. Oil and Gr.	2,390	Hamburg
23	E. G. Boize	Lub.	200	"
23	Vacuum Oil Co.	"	11,700	New York
23	Mercantile Lighterage Co.	"	1,000	"
23	Vacuum Oil Co.	"	400	Philadel.
24	S. Capon	"	2,800	"
24	G. & H. Green	Lub. Gr.	4,430	New York
24	British Petroleum Co.	Lamp	500,500	Port Arthur
24	"	Gas	1,154,500	"
24	"	Lamp	1,677,500	Sabine
25	Bramwell, Fern & Co.	Lub.	16,580	Philadel.
25	Scott's Wharf	"	2,500	New York
25	Port Authority	"	5,800	Hamburg
25	Hanseatic Maritime Agency	"	40	Bremen
27	"	"	300	"
27	F. Chiesman & Co.	"	230	Hamburg
27	Lubricating & Fuel Oils Co.	"	27,230	Philadel.
27	Bowring Petroleum Co.	"	6,580	"
27	Valvoline Oil Co.	"	5,000	New York
27	Langley, Smith & Co.	"	17,850	"
27	Port Authority	"	7,800	"
27	F. Chiesman & Co.	"	17,120	"
27	Motor Petrol Association	Benzine	2,640	Brussels
LIVERPOOL—				
21	H. E. Cox & Co.	Lub.	400	Antwerp
21	J. T. Fletcher & Co.	Lub. Gr.	40	"
21	Worthington & Boler	Lub.	5,760	Alexandria
21	"	"	1,000	Hamburg
21	Pickford's	"	250	"
21	Burnaby & Chantrell	Lub. Gr.	3,480	N. Orleans
21	D. Owen & Son	Lub.	810	New York
21	R. Crooks & Co.	Lub. Gr.	180	"
21	Crew, Levick & Co.	Lub.	1,010	Philadel.
22	H. Parry	"	210	Hamburg
22	D. Owen & Son	"	18,610	N. Orleans
22	Vacuum Oil Co.	"	250	New York
22	Fellows, Morton & Clayton	"	4,450	"
22	Burnaby & Chantrell	Lub. Gr.	8,090	Baltimore
22	"	M. Colza	9,270	"
22	A. Hopps & Sons	Lub.	13,760	"
22	"	M. Colza	1,600	"
22	"	Resid.	2,600	"
23	Meade-King, Robinson & Co.	Lub. Oil and Gr.	5,200	"
23	"	Benzine	50,000	Rotterdam
23	J. Light & Son	Lub.	5,960	N. Orleans
25	"	"	2,720	Baltimore
27	White Star Line	"	1,000	New York
27	Vacuum Oil Co.	"	7,280	"
27	Valvoline Oil Co.	"	24,350	"
27	A. Hopps & Sons	Resid.	5,200	Quebec
27	Huxley & Co.	Lub.	420	Antwerp
27	Pickford's	"	370	"
27	Huxley & Co.	"	200	Ghent
BOSTON—				
24	W. F. Beaumont	"	220	Hamburg
27	"	"	400	"

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
Oct. BRISTOL—				
21	H. Pritchard & Co.	Lub.	2,650	New York
22	J. Carwadine & Son	"	240	Antwerp
22	Pickford's	Lub. Gr.	150	Hamburg
22	H. Matthews & Co.	Lub.	160	Amsterdam
23	Heaton & Co.	"	400	Antwerp
24	Colthurst & Harding	"	240	Hamburg
24	E. Stock & Sons	"	960	"
27	J. & R. Bush	"	12,000	New York
27	"	"	10,000	"
27	Ford & Canning	"	830	"
27	C. Hill & Sons	"	8,500	"
CARDIFF—				
23	Bristol Steam Navig. Co.	"	2,600	Antwerp
GRIMSBY—				
20	J. Sutcliffe & Son	"	550	"
HARWICH—				
22	Great Eastern Railway	"	320	"
25	"	"	520	"
HULL—				
21	Wilson's & N. E. Railway	"	720	Hamburg
22	T. Wilson, Sons & Co.	"	10,080	New York
24	W. Gilyott & Co.	"	6,840	"
24	T. Wilson, Sons & Co.	"	2,000	S. Petersburg
24	Wilson's & N. E. Railway	"	80	Hamburg
27	"	"	2,440	"
27	"	"	480	Antwerp
MANCHESTER—				
22	British Petroleum Co.	Gas	652,500	Port Arthur
22	J. T. Fletcher & Co.	Lub. Oil and Gr.	550	Antwerp
22	D. Currie & Co.	"	1,290	Hamburg
27	W. Hodgson & Co.	Lub.	1,020	"
HARTLEPOOL—				
21	W. H'pool Steam Navig. Co.	"	1,440	"
NEWCASTLE—				
22	Tyne-Tees Steamship Co.	"	5,280	"
22	"	"	480	Antwerp
24	P. H. Matthiessen & Co.	"	160	Bergen
SWANSEA—				
27	Burgess & Co.	"	340	Hamburg
ABERDEEN—				
27	R. C. Reid & Co.	"	440	"
DUNDEE—				
23	D. Alexander & Sons	"	240	"
GLASGOW—				
21	Clyde Shipping Co.	Lub. Oil and Gr.	2,200	Antwerp
23	Donaldson Bros.	Lub.	2,600	Baltimore
27	Anchor Line	"	11,400	New York
GRANGEMOUTH—				
20	Jas. Currie & Co.	"	3,880	Hamburg
LEITH—				
17	G. V. Turnbull & Co.	"	1,430	Philadel.
21	G. Gibson & Co.	"	520	Antwerp
27	Jas. Currie & Co.	"	660	Hamburg
27	"	"	2,400	"
CORK—				
27	P. Murphy & Co.	"	250	"
Deduct—			5,709,640	
LONDON—				
11/9	Anglo-Mexican Petroleum Products Co.	Gas	11,510	Tampico
10	British Petroleum Co.	Fuel	15,400	N. Orleans
			5,682,730	

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

October 31st, 1913.

The market prices for Refined Petroleum remain unchanged as follows:—Roumanian, 8d.; American, 8½d.; Russian, 8¾d.; Galician, 8¼d.; American Water White, 9½d.

LUBRICATING OILS.

The official prices are for:—

No. 1 Russian, £12. 2s. 6d.

No. 2 Russian, £10. 17s. 6d.

American pale, from £9. 12s. 6d.

American dark, from £11. 2s. 6d.

American filtered cylinder, from £14. 12s. 6d.

FUEL OIL

is quoted 70s. per ton, in bulk, ex wharf.

GREASE-MAKING OIL

The current quotation is 80s. per ton, in bulk, ex wharf.

MOTOR SPIRIT

The retail price in London for best quality is 1s. 9d. per gallon, and for second quality 1s. 7d. per gallon.

TURPENTINE.

The American Turpentine market has been very active all the week, and though the prices are practically unchanged since our last report, large business has been done for spot and forward. The quotations are for spot 31s. 6d.; November/December, 31s. 7½d.; January/April, 32s. 6d.

LIVERPOOL.

October 30th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8¾d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, October 3rd.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 l. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
" Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, October 30th.

Oklahoma crude is still quoted at \$1.03 per barrel. Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, October 30th.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, October 28th.

The petroleum prices remain unchanged. The demand for kerosene begins to be lively, that for benzine decreasing. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, October 28th.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 46½–47 copecs per pood spot. Mazout, 45–45½ copecs. Kerosene, 67–68 copecs.

ROUMANIA.

October 28th.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Bushtenari	Francs.
" " " Moreni	...	6.50–7.40
" " " Tzintea	...	5.00–5.80
" " " Policiori	...	4.50–5.00
" " " Bana	...	8.75–9.50
Paraffin	...	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	26.00–26.50
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	18.00–18.50
Residuals, f.o.b. Constanza	...	7.00–7.50
Gas Oil...	...	8.00

AUSTRIA.

October 28th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 32.50 kronen at Oderberg. Benzine, 740/750, 26 kronen; 750/760, 23 kronen, 760/770, 21 kronen, at Oderberg. Gas oil, 7.30 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, London, E.C., report under date October 30th as follows:—

There is no change in prices, which remain at last week's rates, viz.:—

1c 18¾ × 14	124 sheets	110 lbs.	13/4½ to 13/6	per box.
1c 20 × 10	225 "	157 "	19/- to 19/3	"

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

The American Oil Market.

Saturday, October 18th, 1913.

No change in the crude situation has marked the interval, and the only development of noteworthy interest has been the receipt of the pipeline report covering the high-grade fields for September. A gain is noted in stocks of Pennsylvania, Lima, Kentucky and Kansas oil, but a marked decrease in the Illinois product. A comparison of various grades of oil held by the pipeline company at the close of August and September follows:—

	August. Barrels.	September. Barrels.
Pennsylvania	3,758,256	3,997,833
Lima	1,943,838	2,026,512
Kentucky	147,891	191,487
Kansas	2,029,144	2,219,279
Illinois	2,068,928	1,638,928
Totals	9,948,057	10,074,039

In the week's West Virginia developments, says the *Oil Paint and Drug Reporter*, Kanawha county has furnished the most creditable results, four producing wells having a daily total of 275 barrels. Harrison county, in the same State, is forging to the front as one of the most promising of the high-grade sections. There was a slight setback in the expectations of operations in the Beech Bottom pool of Brooke county, with the bringing in of what is reported as the first duster encountered near production in the Berea grit development. As a partial compensation to this experience one of the wells of the county came in a century producer. Confidence in the deep sand territory of South-eastern Ohio continues to be stimulated by the late returns. Hocking county is furnishing the best wells from the Falls Gore township, and more new work is in progress in this section than in any other part of the deep sand territory.

In the Gulf Coast fields, heavy rains have been a retarding factor during the week. Several of the fields have suffered more or less damage as a result of the floods. The Vinton field was practically tied up. Much of the drilling has been suspended in the new Bland field of Orange county, Texas. Operations are being pushed in the Texas Panhandle field, which promises to be one of the centres of drilling activity. Electra is another busy section, and at present is the most prolific source in Texas. Gushers are frequent in the Electra field, and one of the week's contributions

came in at 300 barrels. The September runs of the Texas Panhandle field amounted to 795,315 barrels, with deliveries of 842,687 barrels.

Refined Products.

The general volume of the week's trading in illuminating oil has been moderate, and there has been little to impart new interest to the market. Quotations have continued on an even basis throughout, with a nominally steady tone prevalent. The export movement has not involved unusual proportions, and our record of the week's clearances give a total of 4,232,390 gallons, comparing with 10,622,830 gallons previously.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. Oct. 18.	1913. Oct. 18.
Pennsylvania	\$1.60	\$2.50
North Lima	1.04	1.39
South Lima	0.99	1.34
Indiana	0.99	1.34
Illinois, above 30 degrees	0.87	1.30
Kansas and Oklahoma	0.70	1.03
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex	0.75	0.90
Californian, Coalinga light	0.65	0.60
" Kern River heavy	0.35	0.35
CANADIAN OIL	1.44	1.79

REFINED—FOR EXPORT.

In cents.	Week ended Oct. 18. S.W. 110 test.	W.W. 150 test.
Bulk, New York per gal.	5.00	6.00
Barrels, New York, cargo	8.70	9.70
Barrels, Philadelphia	8.70	9.70
Cases, New York	11.00	12.00
Cases, Philadelphia	11.00	12.00

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29½

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000	\$11.15
1,000 to 3,000	11.25

REFINED—JOBGING LOTS.

In barrels, pkgs. included.	
130 fire test, S.W.	11½
150 fire test, W.W.	12
From tank wagons	8½-9

TOTAL EXPORTS.

	Current week. Gallons.	Since Jan. 1, 1913. Gallons.	Since Jan. 1, 1912. Gallons.
Crude	5,208,480	136,075,769	102,794,375
Refined	15,817,790	725,906,317	742,268,890
Naphtha	7,734,430	96,665,545	115,004,185
Gas oil	2,751,000	27,038,630	51,063,690
Fuel oil... .. .	23,185	101,942,029	69,076,795

The Liverpool Storage Company, Ltd.

Exceptional Facilities for the
Storage of all kinds of . . .

PETROLEUM PRODUCTS

IN BULK AND BARRELS.

Ocean Depots for Petroleum Spirit, Liquid Fuel, Illuminating Oils,
Lubricating Oils and Turpentine.

Also for ROSIN, TAR, TALLOW, etc., etc.

WAREHOUSE RECEIPTS AND WARRANTS ACCEPTED BY ALL BANKS.

The accommodation at all the Company's Depôts is upon the most up-to-date principles, while special facilities are provided for the forwarding of goods to all parts of the kingdom by rail, canal or steamer. *Correspondence invited.*

The General Manager, Peters Buildings, 13, Rumford Street, LIVERPOOL.

Telegraphic Addresses: "CASEMATES, LIVERPOOL."
"WHARFINGER, MANCHESTER."

Telephones: 1808 CENTRAL, LIVERPOOL.
3831 MANCHESTER.

From Lloyd's

OCTOBER 30TH, 1913.

THE "REVIEW" SHIPPING LIST.

The following abbreviations are used in this table: L. Left. Pd. Passed. Arr. Arrived. Sp. Spoken. T. Trading. Cl. Cleared
The Anglo-American Co.'s vessels marked thus (*). The Anglo-Saxon Co.'s tankers thus (Δ). Messrs. Lane & Macandrew's thus (□)

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
ADORNA	Taltal	San Francisco	Arr. Oct. 20	DAYLIGHT (Br. Bq.)	Philadelphia.	Hioigo	Arr. May 1. In port Sept. 5 for E. Coast U. S. America
AMERICAN	New York ...	Antwerp.....	Arr. Oct. 27	DELAWARE*	Liverpool ...	New York ...	Arr. Oct. 21
APPALACHEE*	London	New York ...	L. Oct. 29	DERBENT	Antwerp ...	Batoum	Pd. Sagres Oct. 23
APSCHERON	Batonm	Antwerp.....	L. Oct. 27	DEUTSCHLAND	Stockholm & Tyne	New York ...	Arr. Oct. 24
ARAL	Philadelphia.	Bergen	Arr. Oct. 28	DIAMANT	Philadelphia.	Landserona & Oscarsham	L. Oct. 26
ARAS	Philadelphia.	Lisbon	L. Oct. 23	DONAX	Alexandria...	Port Said ...	Arr. Oct. 24
ARCA	Barrow	Rangoon.....	Arr. Oct. 28	EDWARD L. DOHENEY	Tyne	Tampico	6 miles E. of Caister Sept. 27
ARTHUR VON GWINNER	—	—	Launched Einswarden Dec. 24. Since complet'g	EL LOBO	Lobitos	San Francisco	L. Oct. 22
ASHTABULA*	San Francisco	Pisagua	L. Sept. 29	EL SEGUNDO	Seattle	San Francisco	L. Oct. 8
ASTRAKHAN	Tyne	New York ..	Pd. Cape Race Oct. 25	EL TORO	Barry	Kustendje ...	Arr. Oct. 26
AUREOLE	Rouen.....	Norfolk	L. Dartmouth Oct. 25	ELAX Δ	Singapore ...	Gibraltar ...	Arr. Suez Oct. 27
AZOV	Talara	San Francisco	Arr. ab't Oct. 30	ELISE MARIE	Philadelphia.	Dantzig	L. Oct. 20
BAKU STANDARD...	Antwerp.....	Kustendje ...	Pd. Dardanelles Oct. 28	EMANUEL NOBEL...	Batoum	Kustendje ..	L. Oct. 23
BALAKANI □	Port Arthur & Belfast	Manchester	Arr. Oct. 21. In port Oct. 28	ENERGIE	Baton Rouge	Tuxpan	L. Port Eads Oct. 18
BATOUM	Emden	Galveston ...	L. Oct. 24	ERIVAN	Rouen.....	Kustendje ...	Pd. Gibraltar Oct. 26
BAYONNE	La Goulette	Philadelphia.	Arr. Oct. 20	ESTURIA	Hong Kong..	Singapore ...	L. Oct. 26
BEACON LIGHT	Newport ...	Port Arthur.	L. Oct. 25	EUPLECTELA Δ	Christiania...	Rotterdam ...	Arr. Oct. 27
BLOOMFIELD	Tuxpan	New York ...	L. Oct. 22	EXCELSIOR	Hamburg ...	Philadelphia.	Arr. Oct. 26
BORJOM	Alexandria...	Kustendje ...	Cl. Constanti-nople Oct 19	F. A. TAMPLIN	London	P. Mexico ...	Pd. Lizard Oct. 11
BRILLIANT (Br. Bq.)	Philadelphia.	Kobe	Arr. Aug. 10 for United States	FRANCE MARIE.....	Port Arthur.	Texas City...	L. Oct. 14
BRILLIANT	Copenhagen..	Tyne & New York	Arr. Tyne Oct. 29	(Belgian Ship)	—	—	—
BRITISH SUN	Philadelphia.	Manchester...	L. Oct. 29	GEESTEMUNDE	Havana	Tampico	Arr. Oct. 16
BROADMAYNE	Rouen.....	New York ...	Pd. Lizard Oct. 29	GENESSE*	Liverpool ...	New Orleans	Arr. Norfolk Oct. 29
BUFFALO	San Francisco	Hangkow ...	Arr. ab't Oct. 27	GEORGIAN PRINCE	Providence..	—	L. Norfolk, Va., Oct. 18
BULLMOUTH Δ	Balek Pappan	Hong Kong..	Arr. Oct. 19	GOLDMOUTH Δ	Singapore ...	Woosung ...	L. Oct. 17
BURGERMEISTER PETERSEN	Dantzig	Hamburg ...	Arr. Oct. 26	H. C. HENRY.....	Los Angeles.	Orient	L. Oct. 4
C. A. CANFIELD* ...	Baltimore ...	Tampico.....	Pd. Cape Henry Oct. 12	HAGEN	Hamburg ...	Kiel.....	Arr. July 25. In port Oct. 21
CALCUTTA (Br. Bq.)..	Yokohama ...	San Francisco	Arr. Oct. 20	HAINAUT (Barge) ...	—	—	T. between Tampico and Aransas Pass
CAMILLO	ThamesHaven	Newport	Arr. Oct. 9. In port Oct. 29	HARPORT	Port Castro	Pisagna	L. Oct. 3
CAPTAIN A. F. LUCAS	—	—	T. United States, America	HARRY LUCKENBACH	Tampa	Baltimore ...	L. Oct. 13
CARDIUM Δ	Tyne	Aroe Bay ...	Pd. Perim Oct. 23	HARRY WADSWORTH*	New York ...	Galveston ...	Arr. Norfolk, Va., Oct. 24
CARPATHIAN □	Sunderland ..	Port Arthur.	Arr. Oct. 28	HELIOS	Sabine.....	Hamburg ...	L. Oct. 23
CAUCASIAN □	Amsterdam	Tees	Arr. Oct. 25. In port Oct. 28	HERA	Philadelphia.	Savona & Messina	L. Oct. 15
CHARLES E. HARWOOD	Tyne	Tampico	24 miles W. Lizard Oct. 5	HERBERT G. WYLIE	Sabine.....	Tampico	L. Oct. 17
CHARLOIS	Sabine Pass..	Amsterdam ..	Arr. Ymuiden Oct. 29	HERMIONE	Portsmouth	Port Arthur..	Sp. Oct. 22, 50 N. 6 W.
CHATHAM.....	Baton Rouge	Tuxpan	L. New Orleans Oct. 14	HESPERUS	Taltal	San Francisco	Arr. Oct. 20
CHESTER	Sabine & Norfolk, Va.	Antwerp.....	Cl. Norfolk, Va., Oct. 20	HORLEY	Tampico	Baltimore ...	Arr. Oct. 19
CHEYENNE	London	Kustendje ...	Pd. Dardanelles Oct. 27	HOTHAM NEWTON	Batoum	Rotterdam ...	Pd. Gibraltar Oct. 24
CIRCISSIAN PRINCE	—	—	T. W.C. South America	HYRCANIA	London	Batoum	Pd. Gibraltar Oct. 29
CITY OF EVERETT	New York ...	Baton Rouge	Sp. Oct. 5, 198 miles N. of Jupiter	ILLINOIS	Antwerp.....	New Orleans.	In wireless com. Oct. 28, 7 a.m. T. River
CLAM Δ	Kustendje ...	Hamburg ...	Pd. Dardanelles Oct. 23	IMPEROYAL	—	—	—
CLEARFIELD	Tyne & ThamesHaven	Tuxpan	Pd. Sand Key Oct. 24	IMPOCO	Kustendje ...	Savona	Arr. Oct. 24. In port Oct 25
COMANCHEE	Dublin	New York ...	Arr. Oct. 24	IOANNIS COUTZIS...	—	—	On Govt. Service
CONCH Δ	Abadan	Suez	Arr. Oct. 28	IROQUOIS (Towing Barge Navahoe)	New York ..	London	Off Isle of Wight Oct. 29
CONRAD MOHR	Tyne	New York ...	L. Oct. 17	J. B. AUG. KESSLER	Barrow	Cardiff	Arr. Oct. 20. In port Oct. 29
CORDELIA	Taltal	Port San Luis	Arr. ab't Oct. 15	JULES HENRY	Marseilles ...	Rotterdam ...	Arr. May 24. In port Oct. 28
COWRIE Δ	Balek Pappan	Singapore ...	L. Oct. 26	JUNO	Palembang ..	Miri.	L. Oct. 21
CURRIER	New Orleans	Matanzas ...	121 miles N.W. of Matanzas Oct. 19	KANAKUK	Hong Kong	San Francisco	Arr. Oct. 4
CYMBELINE	Philadelphia.	Bordeaux ...	L. Oct. 14	KASBEK.....	Dunkirk	Philadelphia.	L. Oct. 18
CZAR NICOLAI II..	Hamburg ...	Batoum	Pd. Dungeness Oct. 23	KIOWA	New Orleans & Swinemunde	Hamburg ...	L. Swinemunde Oct. 27
DAGHESTAN	Batoum	Antwerp.....	Off the Wight Oct. 30	KOMETA	Antwerp.....	Algiers	Arr. Oct. 24
DANUBIAN □	Port Arthur.	London	Arr. Oct. 27. In port Oct. 2	KREMLIN	Novorossisk..	Hayre.....	Pd. Dardanelles Oct. 26
				KURA	New York ...	Hamburg ...	L. Oct. 23
				LA CAMPINE	Antwerp.....	New York ...	Arr. Oct. 24
				LA FLANDRE	Antwerp.....	New York ...	Pd. Scilly Oct. 25

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
LA HESBAYE	Antwerp ...	New York ...	Arr. Norfolk, Va., Oct. 27	ROMANY Δ	La Pallice ...	Kustendje ...	Arr. Algiers Oct. 28
LACKAWANNA*	New York ...	Avonmouth..	L. Oct. 19	ROSALIND	Tyne	Philadelphia.	Pd. Dunnet Hd. Oct. 22
LE COQ □	Cette	New York ...	Arr. Oct. 29	ROTTERDAM	Rotterdam ...	New York ...	Pd. Lizard Oct. 21
LUCELLUM	Port Arthur..	Portland, Dor.	L. Norfolk, Va., Oct. 22	ROUMANIAN □	Sabine.....	London	Arr. Oct. 28
LUCERNA	Kustendje ...	Algiers	L. Constanti- nople Oct. 28	ROUMANIAN PRINCE	Rio Janeiro..	Trinidad.....	Arr. Oct. 22
LUCIGEN	Port Arthur..	Portsmouth..	L. Norfolk, Va., Oct. 21	RUSSIAN PRINCE ...	Tampico.....	Aransas	Arr. Oct. 19
LUCILINE □	Cette	Port de Boue	Arr. Oct. 18	SALAHADJI Δ	Newcastle, N.S.W.	Tarakan.....	L. Oct. 23
LUMEN	Kustendje ...	London	Pd. Dardanelles Oct. 23	SAMOSET	San Francisco	Moji	L. Oct. 16
LUTETIAN □	New York ...	Cette	Arr. Oct. 28	SAN ANTONIO.....	—	—	T. Mexican Coast
LUX □	Novorossisk..	Bordeaux ...	L. Oct. 28	SAN BERNARDO ...	—	—	T. Mexican Coast
LUZ BLANCA	Tyne & Amsterdam	Seattle	Arr. Coronel abt Oct. 15	SAN CRISTOBAL	—	—	T. Mexican Coast
MAKKAVEI	Novorossisk..	—	Pd. Dardanelles Oct. 26	SAN DUNSTANO.....	London & Hull	New Orleans	115 miles W. of Lizard Oct. 20
MANNHEIM	Philadelphia.	Hamburg ...	Arr. Oct. 8. In port Oct. 28	SAN EDUARDO	Tuxpan	Port Arthur..	L. Oct. 27
MARGARETHA	Liverpool ...	Braila ...	L. Oct. 25	SAN FRATERNO.....	Bahia Blanca	Tuxpan	L. Oct. 15
MASCONOMO	San Francisco	Moji	L. Oct. 14	SAN GREGORIO	Rotterdam ...	New York ...	140 miles S.W. of Brow Hd. Oct. 23
MASSASOIT	San Francisco	Kuchinotzu	L. Sept. 29	SAN RICARDO	Puerto Mexico	Algiers	L. Norfolk, Va., Oct. 18
METEOR.....	Batoum	Vladivostock.	Called Perim Oct. 23	SAN SILVESTRE.....	Manchester..	Sabine.....	Pd. Old Head of Kinsale Oct. 24
MEXICAN PRINCE..	Balek Pappan	Shanghai ...	L. Oct. 20	SAN TIRSO	Puerto Mexico	Batoum	L. Oct. 28
MIJDRECHT	Kustendje ...	Vlaardingen & Hamburg	Pd. Dungeness Oct. 28	SANTA RITA	Seattle	Port San Luis	L. Oct. 6
MINA BREA.....	—	—	At Callao Oct. 17	SATANTA	San Francisco	Hong Kong...	L. Oct. 14
MIRA	New York ...	Savona	Pd. Gibraltar Oct. 25	SAXOLEINE	Tyne	Philadelphia.	L. Oct. 29
MITRA	Thames Haven	Tyne	Arr. Oct. 27. In port Oct. 28	SEBASTIAN	—	—	Launched Dun- dee Apr 1 24, since complet'g
MOHAWK*	New Orleans	Campana ...	L. Port Eads Oct. 4	SEQUOYA	Balek Pappan	San Francisco	Arr. Oct. 15
MOHICAN	Philadelphia.	Copenhagen .	Pd. Dunnet Hd. Oct. 27	SERVIAN □	Port Arthur..	Avonmouth & London	L. Newport News Oct. 27
MUREX Δ	Hong Kong..	Balek Pappan	L. Oct. 27	SIOUX.....	Tuxpan	New York ...	Arr. Oct. 21
NARRAGANSETT ...	New York & London	Liverpool ...	Arr. Oct. 22	SIRIUS (Ger.)	Bizerta	—	Arr. Malta Oct. 26
NATICA	Singapore ...	Gibraltar ...	L. Sabang Oct. 26	SOCONY	New York ...	Boston	Arr. Oct. 6
NELSON	Jucaro.....	New Orleans.	Arr. Oct. 3. In port Oct. 4	SOYO MARU.....	Abadan	Bombay	Arr. Oct. 8. In port Oct. 10 for Abadan
NEW YORK*	Rotterdam ...	—	Pd. Dungeness Oct. 30	SPLENDOR	La Goulette..	Genoa	Arr. Oct. 23
NIAGARA	San Francisco	Shanghai ...	Arr. Oct. 24	STANDARD	Tampa	Tuxpan	L. Oct. 15
NORMAN BRIDGE ...	Tampico	Galveston ...	Arr. Oct. 18	STROMBUS Δ	Rangoon.....	Sheerness ...	Pd. Gibraltar Oct. 27
OBERON.....	Tocopilla ..	Port San Luis	Arr. Oct. 18	SULTAN VAN LANGKAT Δ	Rangoon	Bombay	Pd. Galle Oct. 23
OCEAN	Philadelphia.	Rotterdam ...	Arr. Oct. 28	SUNLIGHT (Br. Bq.)	Flushing ...	Macoris	Sp. Sept. 30, 50 N. 6 W.
OILFIELD	Venice ...	Philadelphia.	Arr. Oct. 25	SURAM	Sabine.....	Hamburg ...	L. Norfolk, Va., Oct. 26
OKLAHOMA	Rotterdam ...	New York ...	Arr. Oct. 29	SUWANEE*	London	Plymouth & Philadelphia	Arr. Plymouth Oct. 27
ORIFLAMME □	Furt	New York ...	L. Oct. 26	TECUMSOH	Tampico	Tampa	Arr. Oct. 19
OSAGE	Alexandria..	Novorossisk..	Arr. Oct. 26	TELENE Δ	Dalny	Balek Pappan	L. Oct. 21
OTTAWA*	Sunderland & Terneuze	New Orleans.	Arr. Oct. 8	TEREK	Cardiff	Philadelphia.	Arr. Oct. 25
OURAL	Batoum	Rouen.....	Pd. Dardanelles Oct. 28	TEXAS	New York ...	Port Arthur..	L. Oct. 7
PATELLA Δ	Rangoon ...	—	Pd. Sagres Oct. 27	TIFLIS	Genoa..	Kustendje ...	Arr. Oct. 27
PAUL PAIX.....	Swansea	New York ...	Pd. Mumbles Oct. 22	TONAWANDA*.....	Sunderland & Terneuze	New York ...	Arr. Oct. 20
PAULA	Copenhagen..	New York ...	Arr. Oct. 27	TRINCULO.....	San Francisco	Vancouver...	Arr. Oct. 15
PAWNEE	Rotterdam...	Baton Rouge	Pd. Dover Oct. 19	TRINIDADIAN.....	Jacksonville.	Tuxpan	L. Oct. 19
PECTAN	San Francisco	Antofagasta..	Arr. Oct. 10	TRITON	Baton Rouge	Rotterdam ...	L. Norfolk, Va., Oct. 17
PENNOIL	Port Arthur.	Hamburg ...	Arr. Norfolk, Va., abt Oct. 23	TROCAS Δ	Calcutta.....	Soesoe.....	Arr. Oct. 20
PETROLEINE	Tyne	New York ...	Pd. Dunnet Hd. Oct. 18	TURBO	Novorossisk..	Tientsin ...	L. Singapore Oct. 27
PETROLEUM	Portland.....	Kustendje ...	Pd. Dardanelles Oct. 23	UNCAS	Calcutta	San Francisco	Arr. Oct. 11
PHOEBUS	San Francisco	Iquique	L. Oct. 11	VEDRA	Hamburg ...	Baton Rouge.	Arr. Oct. 29
PINNA □	New Orleans	Manchester..	L. Newport News Oct. 24	VILLE DE DIEPPE (Norwegian Barque)	Philadelphia.	La Pallice ...	L. Oct. 21
PONUS	San Francisco	Moji	L. Sept. 28	VITRUVIA.....	Port Arthur..	Avonmouth..	L. Oct. 24
POTOMAC*	London.....	Sabine.....	Arr. Oct. 18	VOLCANUS	Sourabaya ...	Palembang ...	Arr. Oct. 26
POWHATAN	San Francisco	Taku Bar ...	L. Oct. 14	VOLUTE Δ	Balek Pappan	Shanghai ...	L. Oct. 24
PROMETHEUS.....	Callao	San Francisco	L. Oct. 17	WABASHA.....	San Francisco	Moji	L. Oct. 9
PRUDENTIA.....	Trinidad... ..	New York ...	Arr. Oct. 21	WANETA (lt. Impoco)	Port Aransas	Tampico	Arr. Sept. 30
PURELIGHT.....	Hamburg ...	Port Arthur.	Pd. Prawle Pt. Oct. 13	WAPELLO	Tyne	New York ...	Arr. Oct. 22
QUEVILLY (Fr. Bq.)	Rouen.....	Havre	Arr. Oct. 27	WASHINGTON....	Copenhagen.	Hamburg ...	Arr. Oct. 18. In port Oct. 28
RADIOLEINE II. ...	Marseilles ...	Braila	Cl. Constanti- nople Oct. 24	WEEHAWKEN	New York ...	Alicante.....	Pd. Gibraltar Oct. 28
RANELLA	Batoum ...	Colombo.....	Arr. Oct. 27	WILLIAM F. HERRIN	San Francisco	Everett	Pd. Tatoosh Oct. 9
RENDOVA (Br. Bq.)	Seville	New York ...	Pd. Bonanza Sept. 20	WILLKOMMEN	New York ...	Stockholm...	Pd. Dunnet Hd. Oct. 29
RION	Liverpool ..	Philadelphia.	Arr. Oct. 23	WINAMAC.....	New York ...	Port Said ...	Arr. Fayal Oct. 1
ROCK LIGHT □	Amsterdam .	Braila	Pd. Dungeness Oct. 27				

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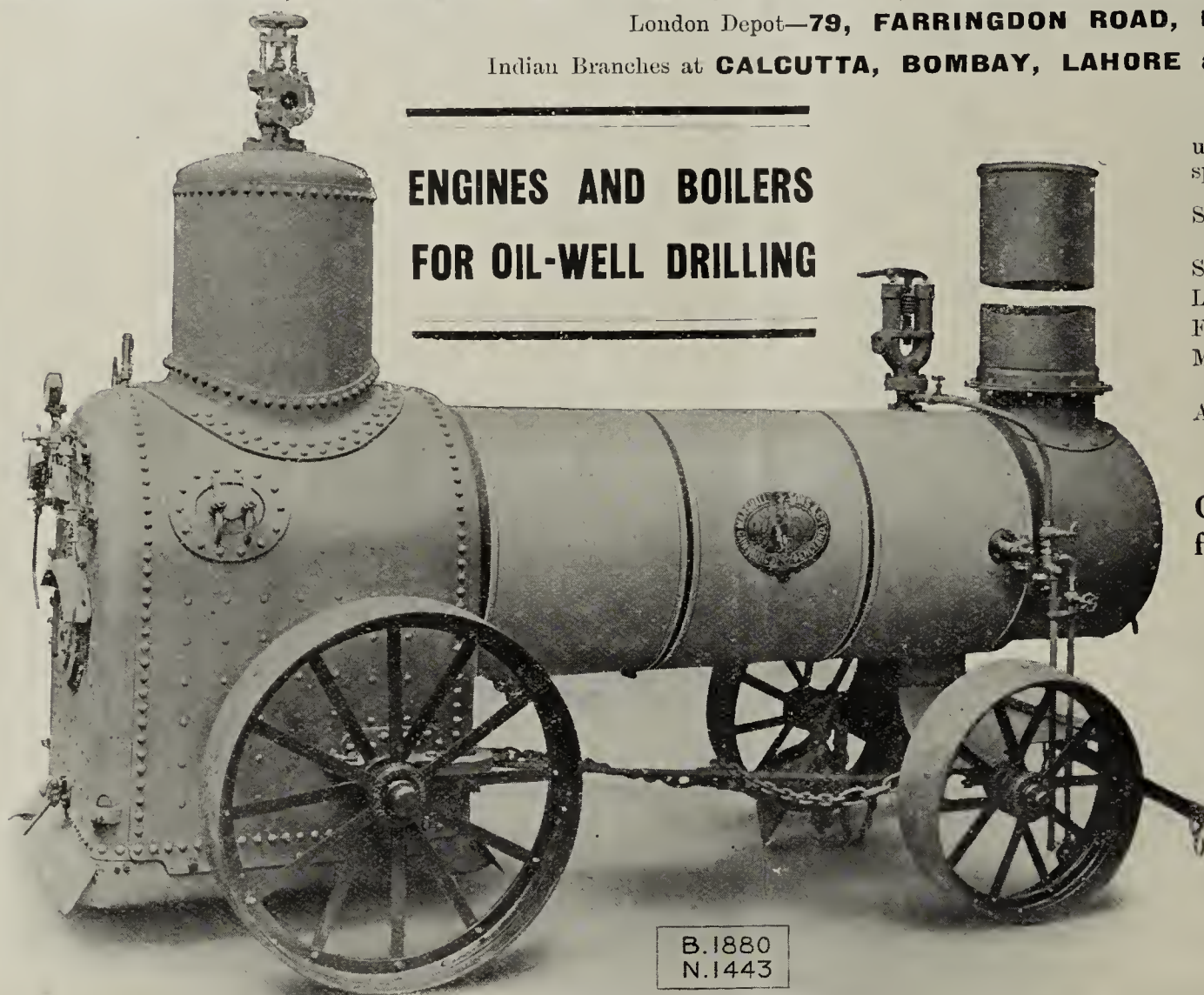
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THE PETROLEUM REVIEW.

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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

The Oil Port of Rotterdam.

IN this issue of the REVIEW we make a somewhat lengthy reference to the bulk oil storages of the Port of Rotterdam, the information thereto having been gathered during a recent visit.

It is at all times a matter of great interest to the oil man to study the admirable arrangements which have been made at the chief ports of the world for the reception and safe storage and distribution of petroleum products. Time was when no such elaborate arrangements were necessary, for with the old system of transport of all kinds of petroleum in barrels, a few ordinary sheds sufficed for the purpose of storage and distribution of petroleum products. But during the past twenty years, events have marched quickly in this respect and to-day a bulk oil storage installation must of necessity be replete with bulk storages and apparatus, which, both from a practical and a technical point of view, form almost the last word in perfection. In this respect Rotterdam can justly boast of having one of the finest petroleum harbours on the continent, and the fact that the world's largest oil tanker, the "San Gregorio," discharged her immense cargo of nearly 15,000 tons in the course of a few hours at one of the installations a week or two ago, says much not only for the up-to-date character of the city's bulk oil storages, but even more for the great bulk of petroleum products now daily passing through the commercial capital of Holland.

The Roumanian Oilfield Conflagration.

THIS week we have to chronicle the occurrence of one of those disastrous oilfield conflagrations which, fortunately, do not frequently overtake the petroleum industry. The prolific Moreni district of Roumania has been the venue of the calamity, which, from a financial point of view, will well rank among the worst fires known in

the history of petroleum exploitation. Up to the time of writing only meagre details are to hand, yet these are sufficient to show the widespread nature of the fire, which has for the time being wiped out of production not only Roumania's greatest producing well—we refer to the "Colombia"—but also put out of action over a score of other oil producers. Ever since the "Colombia" well came into production last year there has been a constant fear of conflagration throughout the valley of Moreni, and it was the fact that the well gave off such large quantities of gas which prompted the Government to issue an order forbidding drilling within a radius of 100 metres from any well in eruption. Such a veto naturally had a serious effect upon several companies whose interests were in close proximity to the "Colombia" well, but the ever present danger of fire was obvious to any practical mind, and though it may be but a mere coincidence, it is worthy of mention that a new order permitting drilling to be carried on in the Moreni valley as formerly only received royal assent a few weeks ago.

Fires and Their Lessons.

HISTORY repeats itself: it is the old tale of "out of evil cometh good." Oilfield fires by the very majesty of their dimensions ever teach the lesson of care, which should be exercised by those who have control of oilfield operations, no matter in what locality their energies find profitable scope. To our mind there has been a palpable lack of necessary care in the past in this respect, and it is only when such serious fires occur as the one this week at Moreni that the importance of adopting every preventive measure against such disaster impresses itself—for the time being at all events—upon oil-operating companies generally and those who have the field management of them. Much has, we admit, been done in the past, but far more still remains. The question, in fact, is well worthy of inclusion in any conference of petroleum producers, standing, as it does, not even second to that vexed problem of effective water shut-off.

More Rumours of "Shell" Deals in California.

OUR Californian correspondent, who, it will be remembered, gave the first news to this country of the acquisition of the Turner and W. K. companies by the Royal-Dutch Shell Combine, writes to the effect that in high quarters there are persistent rumours that the combination may at an early date secure control of other important interests in California. In fact, rumour goes so far as to whisper the name of the General Petroleum Company as the one to be acquired. If this be so, then the "Shell" would at once be in possession of equipment

and organisation in California practically equal to that of the Standard Oil Company itself, for by acquiring the General Petroleum Company it would also gain control through it of the Union Oil Company. Though it is impossible in London to gather either a confirmation or a denial of the truth of the rumours given above, it may be more than a coincidence that the president of the General Petroleum Company, Mr. Eugene de Sabla, has recently arrived in London.

MR. W. H. EDWARDS RESIGNS HIS POSITION WITH THE STANDARD OIL COMPANY OF CALIFORNIA.

MR. W. H. EDWARDS has recently resigned his position as secretary of the Standard Oil Company of California, after having been associated with the company for over a quarter of a century. Mr. Edwards was formerly stationed in London, when Mr. J. P. Harris was in charge of affairs; Mr. Harris now being the responsible head of the "Shell" interests in California.

THE RUSSIAN KUBAN INDUSTRIAL AND PETROLEUM COMPANY.

OUR readers will be interested to learn that the Russian Kuban Industrial and Petroleum Company, Ltd., of Ekaterinodar, South Russia, have just opened a Baku office at Staro-Polizerskaya No. 24, this step having been decided upon owing to increasing business in the Baku fields. It may be mentioned that not only does the company manufacture all kinds of rotary, percussion, and combination drilling outfits, but it makes the celebrated Sharp & Hughes drilling bits, which have done so much to bring the rotary system of drilling to the fore. The company is well represented in this country by Mr. George W. Mancell, of 9, Martin's Lane, Cannon Street, E.C.

DISASTER TO THE BURMA OIL COMPANY'S "TWINGONE."

Six Lives Lost.

THE REVIEW learns that disaster has overtaken the Burma Oil Company's oil tanker "Twingone." On Tuesday last the tanker was discharging her cargo into a lighter in the Tuticorin Harbour (Madras) when some spirit became ignited. A rush was made by those on board for the shore, but the lifeboat, which was moored to the side of the vessel, was only able to take off a few.

The first and second engineers as well as the captain's daughter and three others have perished, but it is possible that the death-roll may be increased, for a number of coolies who were on board are so far not accounted for. The "Twingone" was built in 1902 and has a gross register of 1,770 tons.

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PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended November 1st was 107,000 poods.

SPIES PETROLEUM COMPANY, LTD. — The production for week ended November 2nd, including 2,235 poods from ambars, was 318,240 poods, or about 5,133 tons. The total production for the year, from January 14th to November 2nd, was 10,971,535 poods, or about 176,960 tons. The total production for the corresponding period last year was 13,716,030 poods, or about 221,226 tons. Price of crude oil at Baku is now 44½ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD. — The production of crude oil for week ended November 1st was 399 tons.

EUROPEAN OILFIELDS CORPORATION, LTD. — The production for the week ended November 2nd was 98,700 poods, or 1,591 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended November 1st was 131,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended November 1st was 27,967 poods (451 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended October 25th was 8,387 poods, or 135 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended November 2nd was 10,720 poods, or 173 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended November 1st, 121,442 poods or 1,959 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest production for week ended November 4th was 365,900 poods, or 6,902 tons. Corresponding period last year, 1,129 tons. Total production to date for this year, 92,149 tons, last year 25,411 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended November 2nd was 99,300 poods, or 1,602 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended November 1st was 124 tons.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended November 1st was 15,860 poods (255 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended November 1st was 1,440 poods (23 tons).

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THE PETROLEUM STORAGES OF ROTTERDAM.

INSTALLATIONS OF THE AMERICAN PETROLEUM COMPANY.

(Special to the REVIEW.)

WITHOUT doubt the bulk storages for the reception of petroleum products at Rotterdam rank among the finest in the world. Long before other seaports could boast of petroleum storages of any description we find Rotterdam making rapid headway in this respect. As far back as 1864 the first storages for petroleum

Maas, and year by year the new buildings which rise on the sea side of the city eloquently corroborate this statement.

The result is that the petroleum harbour is to-day almost in the centre of the river's commerce, and this is rendered the more so by reason of the fact that when



A Portion of Rotterdam's Petroleum Storages.

products were erected in Holland's commercial capital for storing petroleum in barrels, this installation being built by the well-known firm of Pakhuismeesteren. This storage, however, was within the city limits, and on account of fire danger combined with the great and continuous increase in the petroleum importing trade, the establishment was removed in 1876 to another site about a mile down the Maas, where to-day all the petroleum storages are situated.

in 1907 the question of new harbour accommodation became urgent, the city authorities had to seek an entrance for a new dock to the west of the petroleum harbour. In the meantime every possible precaution has been taken by the several petroleum importing companies to minimise any danger from fire, and each installation for bulk storage is surrounded by earthen walls in order to confine the oil should it escape from any tank. It is probable, however, that after 1925,



The Installations of the American Petroleum Company.

With the continued expansion of the trade in petroleum products—expansion which has been the greater since the bulk transport of petroleum was inaugurated—the establishments along the Maas for the storage of products have grown to such an extent that to-day, on the south bank of the river, they form a line of buildings nearly two kilometres in length, constituting one of the finest petroleum harbours it is possible to imagine.

But in sea-borne commerce the trend of events in Rotterdam is for a movement nearer the mouth of the

when the authorities will be at liberty to enforce the removal of the present petroleum storages, they may suggest that any new storage installations shall be removed further seaward.

The principal importing companies having their own bulk storages on the Maas are the Koninklijke Nederlandsche Maatschappij tot Exploitatie van Petroleum in Nederlandsche Indie, the Pure Oil Company, the American Petroleum Company, the firm Pakhuismeesteren, the Deutsche-Amerikanische Petroleum Gesellschaft, who store for the Mannheim Bremer

Petroleum A.-G., of Mannheim, and the Société Anonyme pour la vente de Pétrole ci-devant H. Rieth & Co., and not only are these companies responsible for the whole of the great trade in petroleum products in Rotterdam, which alone consumes approximately 280,000,000 kilogrammes of petroleum per annum, but they also cover a wide area which, in many cases, stretches far beyond the confines of Holland itself.

One of the chief petroleum importing and distributing companies in Holland is the American Petroleum Company, whose head offices are in Rotterdam, with branches at Antwerp, Amsterdam, Neuss, Bingen and Mainz.

Established twenty-two years ago, with a capital of 5,000,000 fl., the company at once became one of the most active of the petroleum importing concerns in Holland, and within four years of its formation its capital was increased to 6,250,000 fl., while in 1897 it was further increased to 7,850,000 fl. To-day its capital is 12,000,000 fl., and its area of operations embraces Holland, Belgium and Germany, throughout which countries it has numerous installations and depots.

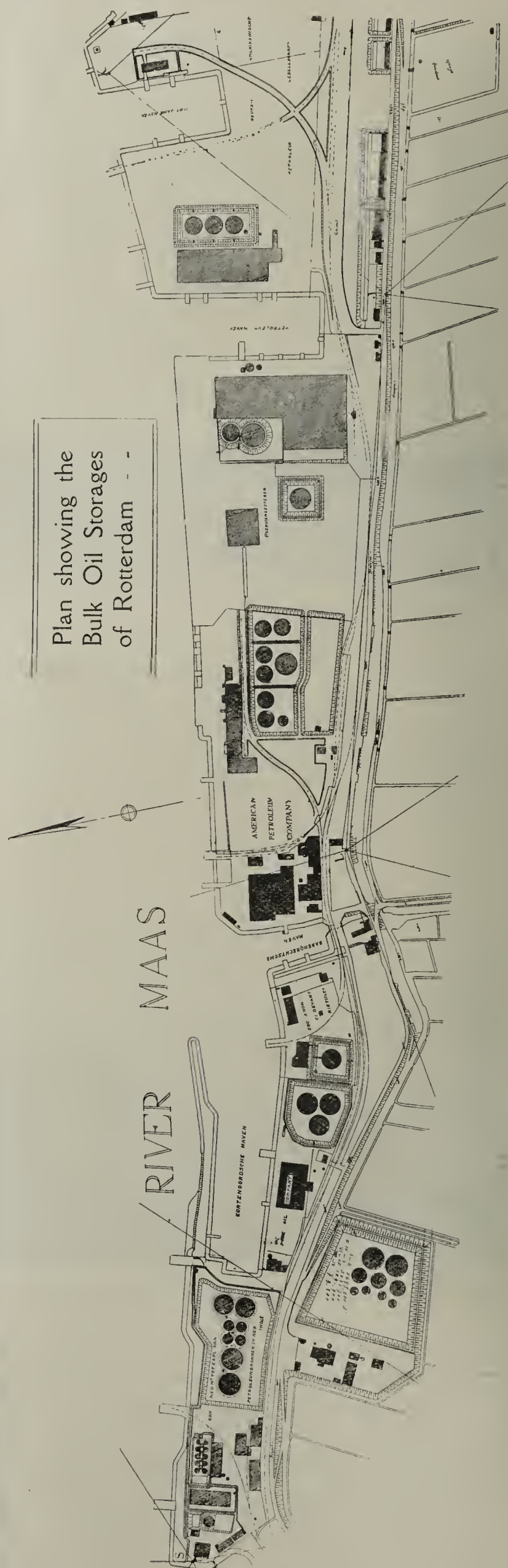
The company's main installation is situated on the left bank of the River Maas, and comprises seven storage tanks, with a total capacity of 120,000 barrels, pump house, filling sheds, paint and glue sheds, cooperage department, warehouses and offices, as well as the usual apparatus for the filling of tank wagons, barrels and street cars.

In addition the company has a large machine shop for the carrying out of all repairs to its tank vessels, while to meet its own requirements in regard to printing and stationery it has a special printing works.

All buildings are erected in prepared cement, and are fire-proof, whilst the whole site is fitted with the most up-to-date appliances for preserving same against fire. The insides of the tanks and all buildings are fitted with steam pipes for use in emergencies, whilst on the tops of the tanks various pipes are so designed that should a conflagration take place water can be distributed over the whole tank. The tanks are furthermore erected in a pit, so that in the event of fire no escaped burning oil could find its way to the river. Along the river front the company has long jetties for the accommodation of its steamers, and here the loading of its various Rhine lighters also takes place. All steps have been taken for the protection of the workmen as much as possible, and the latest appliances are supplied for use in case of any accident.

The company has a fleet of nine oil tankers regularly running between America and Holland and Belgium. Of late, however, this fleet has been found all too small for the company's requirements, with the result that additional oil tankers have had to be chartered. For its inland trade the company has also a fleet of lighters and motor boats, and it is by means of these that its interior depots are continuously served with all kinds of petroleum products.

Exploration Works at Langatchali.—Exploration work is now going on in the localities of Ragin and Tchigil, by the firms Zuba'off and Duel, the first of which have bored 560 ft. in one well, at which depth there is gas. The latter firm has commenced two bores, in one of which 220 ft. have been passed through grey marl with petroleum stratification and escape of gas. From this well oil has already been obtained. The second well is now at a depth of 140 ft.



Motor Spirit Distillation from the Heavy Constituents of Crude Oil.

FULL DETAILS OF THE BURTON PROCESS.

THE question of sustaining the production of the lighter petroleum distillates for internal combustion engines to a degree commensurate with the sharply gaining consumption, says the *Oil Paint and Drug Reporter*, has involved more serious concern to all branches of the industry than probably any other economical problem of recent years. Motor spirit and its allied products are the first to be taken off in the distillation of crude oil, and the heavier derivatives from illuminating to fuel oil are the result of continued stages of distillation. It was out of the question to stop the refining process at the point where the most keenly desired and most valuable products were yielded. Where the output of the lower grades were of a more or less forced character the cost of production, which could not be brought within naturally economical regulation by adequate markets, had to be met to a considerable extent by such appreciations to the prices for the lightest distillate as they could command under the much more favourable market conditions. Demand for the latter was sufficiently heavy to give good support to the equalisation movement, and at the high level of 21c., the general basis for gasoline for motor use, a material part of the cost of the forced illuminant product is believed to be covered.

By obtaining a greater proportionate yield of the naphthas in the distillation of crude experts have recognised that the most practical stage of economical adjustment without a burdensome volume of the incidental production of the derivatives could be realised. What has been regarded as probably the most practical solution of this problem, whereby the breaking up of the hydrocarbons of petroleum to a finer degree for the more desirable combinations and condensing them under compression, and thereby reducing the percentage of fuel oil, has been patented by Mr. William M. Burton, of Chicago, and assigned to the Standard Oil Company of Indiana, which is installing the process in its refineries at Whiting, Ind., and Alton, Ill. The product for gas engine consumption, for which this process is distinctive, is marketed as motor spirits at practically 3 cents per gallon less than grades of gasoline in general use, but capable of producing 10 per cent. more power. It is said to be only in respect to a slightly pungent odour and a trace of yellow that the new distillate bears disparagement with gasoline. It is claimed that the Burton process is capable of utilising about as many gallons of motor spirits from a given amount of crude as are now obtained of gasoline, thus practically doubling the output of a fuel suitable for internal combustion engines. Attaining the maximum extent of production by the new method will probably require several years, as the process necessitates an extremely expensive plant installation, and the operation also involves considerable expense.

The following is the official description of the process filed by the patentee with his application to the Patent Office:—

My invention relates to an improvement in the treatment of the high boiling-point residual portions, and particularly the residue of the distillation of the paraffin group or series of petroleum after the lower boiling-point distillates have been removed to obtain a low boiling-point product of the same group or series.

The great and growing demand during the past ten years for gasoline has induced a large increase in the supply by improvements in the method of distilling from crude petroleum the naphthas, the boiling points of which range from about 75° F. to

350° F. This leaves the illuminating oils, the boiling points of which range from about 350° F. to about 600° F., and the lubricating oils and waxes and, as residue, fuel oil and gas oil, with boiling points ranging from about 600° F. to 700° F. The increasing demand for gasoline has induced attempts to obtain it from this residue; but these attempts, while successful in producing gasoline, have invariably, so far as I am aware, as the result of lowering the boiling point, changed the general formula of the paraffin group (C_nH_{n+2}) to that of the ethylene group (C_nH_n), rendering the product unmarketable because undesirable by reason of its offensive odour, for the removal of which no suitable treatment has been found.

A known method of treating the fuel and gas oils, forming the aforesaid residue of distillation of the paraffin series of petroleum for obtaining therefrom a low boiling-point product, involves subjecting the liquid to be treated to a temperature sufficiently high to secure so-called destructive distillation, and conducting the resultant vapours through a condenser by way of a pipe or conduit connecting it with the still, but having a loaded valve interposed in the conduit between the condenser and still to maintain pressure in the latter of the vapours of distillation on the liquid. While this practice produces the desired effect of lowering

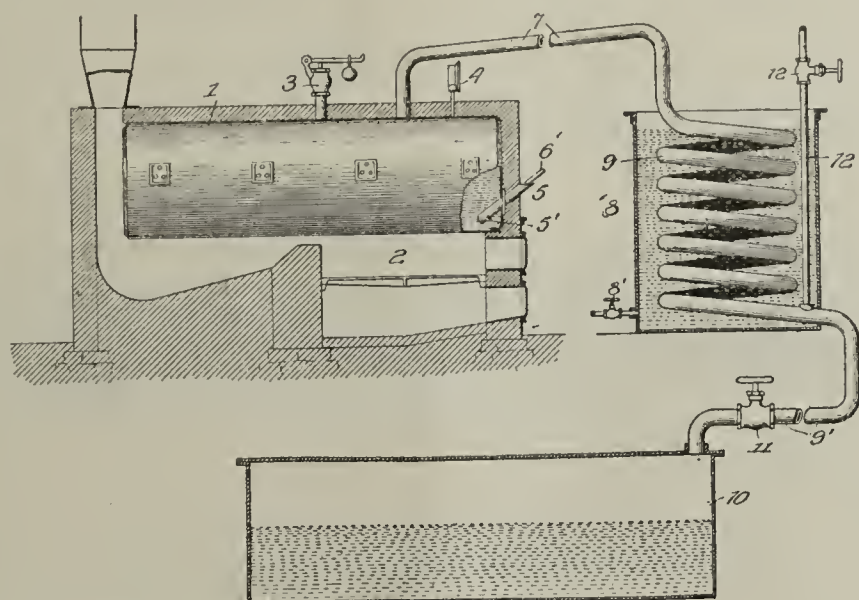
the boiling point of the liquid, the condensed product, for reasons which I do not attempt to explain, is found to have been converted into distillates belonging to the objectionable ethylene group referred to.

The object of my invention is to provide a method of treating the aforesaid residue of the paraffin group of petroleum by distillation and condensation of the vapours thereof, whereby the resultant product of low boiling points shall be of the same paraffin series, and thus free from the objection mentioned, or, in other words, whereby conversion of the petroleum of that

series into products belonging to the ethylene series shall be avoided. This object I accomplish by raising the boiling point of the liquid residue and increasing the heat influence thereon while undergoing distillation by maintaining back-pressure on said liquid of the vapours arising therefrom by distillation, as has hitherto been done, as aforesaid, and also maintaining the vapours themselves under pressure throughout their course from the still through the condenser and while undergoing condensation.

Suitable apparatus devised for the practice of my improvement is illustrated in the accompanying drawing by a broken view in vertical longitudinal section, diagrammatic in character, showing parts in elevation.

A boiler-like holder 1 for the liquid residue to be treated surmounts a fire-chamber 2, and is shown to be equipped with a safety-valve 3 to relieve excessive pressure in the holder, a pressure-gauge 4, and a temperature-gauge 5, the preferable construction of which is that illustrated of a tube 5' extending inclinedly into the holder through its head and closed at its inner end, for containing mercury, or by preference, oil, and adapted to have withdrawably inserted into it through its outer, open end a suitable thermometer 6 for immersion into the contents of the tube under subjection to the heat in the holder. A conduit 7 leads from the top of the holder and inclines upwardly therefrom, to induce the return flow into it of unvaporized portions of the liquid, to a condenser 8, the tank of which is shown to be provided with a lower draw-off cock 8'. The condenser coil 9 discharges at its lower end through a pipe-extension 9' thereof, of any



desired length, into a receiver 10 for the products of condensation. In this pipe, and thus beyond the discharge end of the coil, is contained a shut-off valve 11, and it is desirable to equip the coil with a relief valve 12, shown on the upper end of a pipe 12' rising from near the lower end of the coil through the top of that condenser tank for relieving the gas pressure which is liable to accumulate in the coil and obstruct the action of the apparatus.

The valve 11 is normally closed. From a supply of the aforesaid liquid residue contained in the holder 1, heat from the fire-chamber distills the volatile constituents, and the resultant vapours course through the conduit 7 and coil 9, wherein they are condensed. With the valve 11 tightly closed against the escape of the products of condensation, the vapours of distillation accumulate and thereafter exert a high pressure amounting from about 4 to about 5 atmospheres upon the liquid in the holder or still, raising the boiling point from 500° F.—600° F. to 750° F.—800° F.; and this pressure of the vapours combined with their contained heat greatly enhances the conversion of the high-boiling members of the paraffin series into low-boiling members of the same series. The valve 11 is opened from time to time to draw off the products of condensation into the receiver 10. In fact, the intervals of drawing off should be sufficiently frequent to avoid filling the coil with liquid, for the most satisfactory operation of the apparatus. The resultant gasoline is a product belonging to the paraffin series, the same as the petroleum residue from which it was distilled. I do not herein account for the effect of the back-pressure from the extreme end of the condenser-coil upon the contents of the holder 1 in preventing transformation of the paraffin series into the objectionable ethylene series, but it is the fact that such effect ensues.

What I claim as new and desire to secure by letters patent is:—

1. The method of treating the liquid portions of the paraffin series of petroleum distillation having a boiling point upward of 500° F., to obtain therefrom low boiling-point products of the same series, which consists in distilling at a temperature of from about 650° F. to about 850° F. the volatile constituents of said liquid, conducting off and condensing said constituents and maintaining a pressure of from about 4 to about 5 atmospheres on said liquid of said vapours throughout their course to and while undergoing condensation.

2. The method of treating the liquid portions of the paraffin series of petroleum distillation having a boiling point of upward of 500° F. to obtain therefrom low boiling-point products of the same series, which consists in distilling off at a temperature of from about 650° F. to about 850° F. the volatile constituents of said liquid, conducting off and condensing said constituents, maintaining a pressure of from about 4 to about 5 atmospheres on said liquid of said vapours throughout their course to and while undergoing condensation, and releasing from time to time accumulations of gas from the products of condensation.

THE ELEVENTH INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY.

THE Eleventh International Congress of Applied Chemistry will take place, in the summer of 1915, at St. Petersburg. A meeting of professors of all high schools and universities in Russia and principal practical technologists has already taken place, and an organising committee has been selected under the chairmanship of the academician Waller. At the same meeting it was decided to establish a special section on "Petroleum Fuel and Asphalt." As chairman of this section has been selected the professor of the St. Petersburg Polytechnic Institute—M. D. Zelinski. At a meeting of this section, which recently took place in the Technological Institute, it was decided to name the section "Fuel and Bitumena." Various details of the organisation of the meeting were decided upon. The section will be divided into two special classes, one on fuel and the other on bitumena. Among the principals of this section are representatives of all higher schools and universities, as well as practical people well known in the petroleum industry. Short reviews on the historical development of petroleum production, refining, etc., will be published before the date of the Congress.

During the Congress various excursions will be organised into the petroleum centres.

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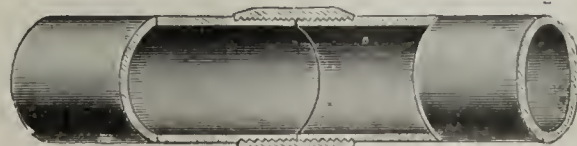
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Company.	Share Capital.	Value of Shares.	Latest Prices.
	£	£1	$\frac{1}{2}-\frac{9}{16}$
Anglo-Maikop Corporation...	650,000	£1	$\frac{1}{2}-\frac{9}{16}$
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{7}{8}-\frac{15}{16}$
„ 5% Deb. Stock ...	600,000	£100	87-91
Assam Oil ...	310,000	£1	$\frac{19}{32}-\frac{23}{32}$
Baku Russian Petroleum Co.	750,000	10/-	5/6-6/0
Bibi-Eibat Oil Co. ...	250,000	10/-	8/0-9/0
European Oilfields ...	385,000	10/-	6/9-7/9
Lobitos Oilfields, Ltd. ...	400,000	£1	26/9-27/9
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{5}{8}-\frac{3}{4}$
Pacific Oilfields, Ltd. ...	250,000	£1	3/0-4/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	20/0-21/0
Russian Petroleum Co. ...		10/-	4/0-4/6
Schibaieff Petroleum, new Pref. (fully paid) s/s	690,000 s/s	(fully paid)	$1\frac{1}{2}-1\frac{5}{8}$
„ „ new Ord.			16/6-17/6
Shell Transport and Trading	7,000,000	£1	$4\frac{2}{3}-4\frac{3}{4}$
„ „ „	3,000,000 Pref.	£10	$10\frac{1}{8}-10\frac{3}{8}$
Spies Petroleum Co. ...	750,000	10/-	23/6-24/6

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	736	740
Caspian Society (Issue 1910) ...	1,000	3,285	3,290
A. I. Mantascheff & Co. ...	250	770	775
Nobel Bros....	5,000	19,900	20,000
Nobel Bros. (Issue 1912) ...	250	1,016	1,020
Russian Naphtha Society ...	100	310	312
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	272	274
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	395	400

SCOTCH PRICES.

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Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	37/6
„ 6% Cum. Pref.	100,000	£10	£11 $\frac{1}{4}$
Burmah Oil, Ord. ...	1,100,000	£1	72/3
„ Pref. ...	250,000	£1	25/4 $\frac{1}{2}$
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
„ 5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	6/0
Mexican Eagle Oil, Ltd., Non. Cum. Pref. ...	\$8,500,000	\$10	37/9
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	36/6
„ Pref. (£1 paid) ...	100,000	£1	22/0
Premier Oil Ord. ...	2,300,000	£1	6/3
Pumpherstons Min. Oil Co., Ltd. Ord. (17/- paid) ...	110,500	17/-	5 $\frac{11}{16}$
„ 6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	7/6
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	72/9
„ „ B Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).	
Dordtsche Petroleum Industrie My., Ord. ...	Aand	187
„ „ „ „ „ Pref. ...	„	186
Royal Dutch Petroleum Co. ...	„	635
Moeara Enim Petroleum Maatschappij ...	„	244
Perlak Petroleum Maatschappij ...	„	44
Sumatra Palembang Petroleum Maatschappij ...	„	233 $\frac{1}{2}$
Zuid Perlak Petroleum Maatschappij, Pref. ...	„	36
Tarakan Petroleum Maatschappij ...	„	124



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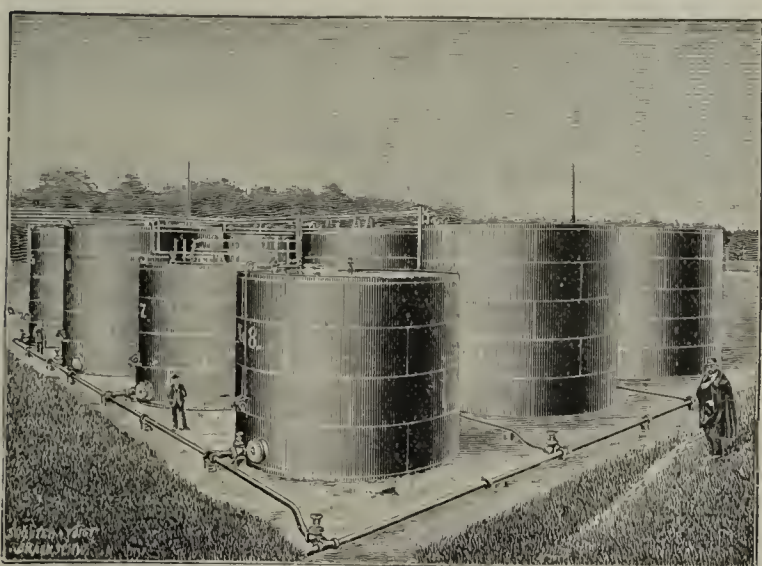
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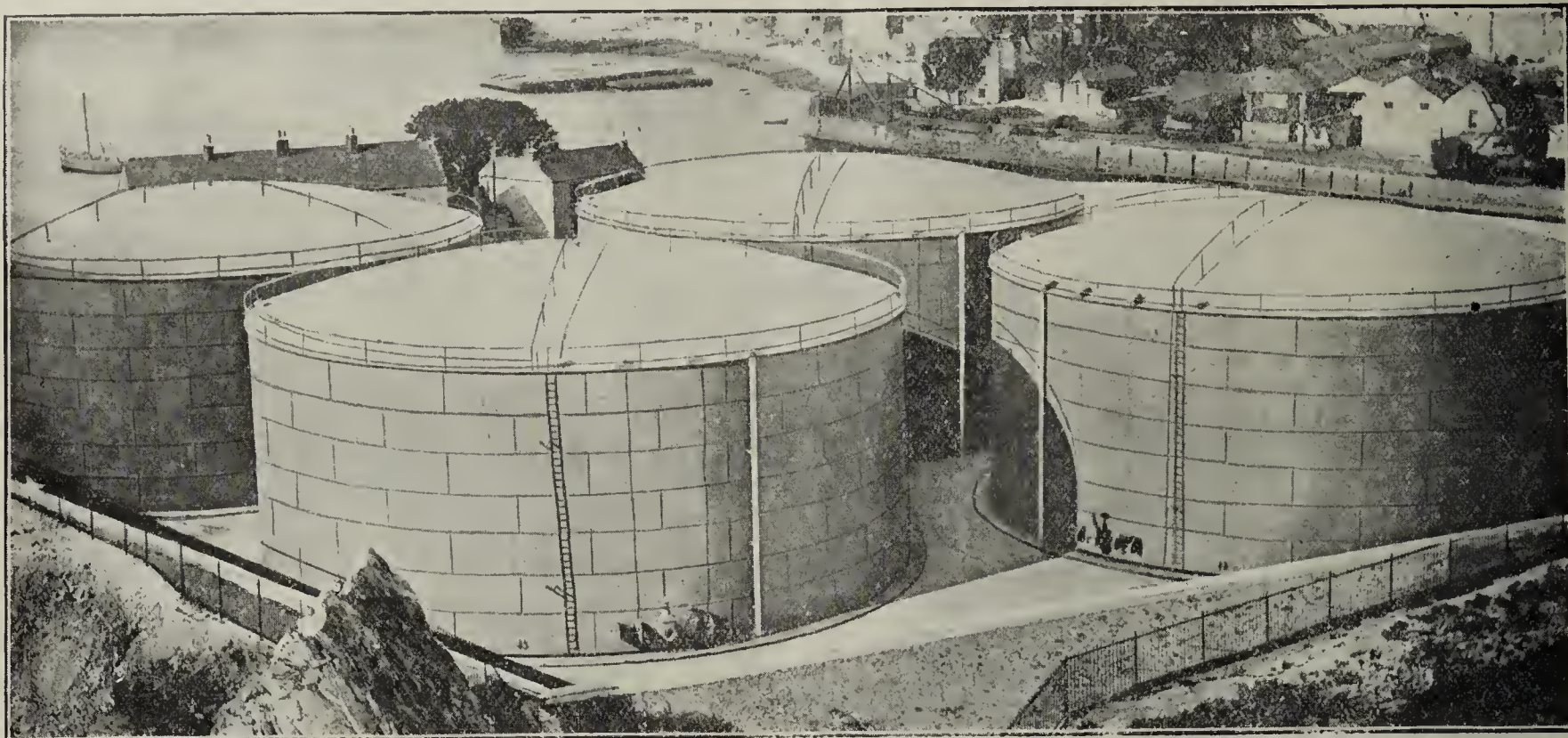
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CHIEF CONTENTS.

	PAGE
Editorial Notes	487
Production of English Companies in Russia	488
The Petroleum Storages of Rotterdam	489
Motor Spirit Distillation from the Heavy Constituents of Crude Oil... ..	491
Latest Quotations of Petroleum Shares	494
The "Shell" Interests in California	497
Classified Imports into the United Kingdom	498
Roumanian Consolidated Oilfields, Ltd.	499
The Petroleum and Natural Gas Resources of Canada	501
The Oilfields of Burma	503
American Petroleum Production during 1912	505
Russian and Roumanian Notes	506
Home and Foreign Market Intelligence	507
Imports of Petroleum Products	508

THE PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office : 111, Broadway, New York.

SATURDAY, NOVEMBER 8TH, 1913.

THE "SHELL" INTERESTS IN CALIFORNIA.

SCARCELY a mail arrives at our offices without containing fresh evidence of the determination with which the "Shell" Royal-Dutch Combine is carrying out its policy to become one of the greatest factors in connection with the petroleum industry of California.

It is now several years ago since the combination first directed its attention to the opportunities which

existed in the Californian state for the extension of its energies, and it is safe to say that California has ever appeared before the directors of the combine in the most favourable light.

Following upon a careful search for likely oil-producing territory in the various fields, the first public move was taken about three years ago, when the Asiatic Petroleum Company, the marketing branch of the combine, secured headquarters in San Francisco and purchased properties on the coast and elsewhere for use as distributing stations.

For months the question of the advent of the "Shell" interests was the leading topic of conversation in California, and opinions were divided as to whether the combine would simply enter the fields as a refiner and distributor of petroleum products, or go wholeheartedly into the business of oil production, refining, and distribution.

More recent events leave no doubt upon the mind as to the position which the "Shell" interests eventually occupy in regard to California's petroleum industry; in fact it is already assured that they will rank equally as important as the Standard Oil Company in that country, and possibly even be the premier company. That this prophecy is nearing accomplishment each passing week is obvious from the several reports which have recently appeared in our pages.

In the first place, we see the passing over to the powerful Combine of that most successful of Anglo-Californian concerns—the California Oilfields, Ltd.; then has followed the acquisition of the Turner and and W.K. companies to the combination—an interesting announcement first made by the "Review." By virtue of consolidation of interests, the "Shell" Royal-Dutch group immediately assumes control of a production of approximately 18,000 barrels per day of some of the highest grade oil in California. It is generally recognised that the daily production of the Standard Oil Company in the Californian fields is between 40,000 and 50,000 barrels per day, one of the Company's wells alone being responsible for over 10,000 barrels daily.

So far then the "Shell" production in the State is not to be compared at the moment with that of its old-established rival. It is evident, however, that the deals so far concluded are but a part of a carefully laid down policy to assume control of practically the major portion of California's home and over-sea trade. There is, indeed, plenty of evidence to corroborate this assumption.

As we write, a report comes to hand that the Combine has purchased the properties of the Mays Consolidated Oil Company in the Midway district for a consideration of, roughly, £200,000, and from the 250 acres comprising the property there is at the present time a production of 50,000 barrels per month. Then there is the persistent rumour of the coming purchase of the properties of the General Petroleum Company, and through them the Union Oil Company's assets, by the Combine. That the "Shell" is already closely allied with the General Petroleum Company is clear from the fact that it has already concluded a contract under which it purchases from the General several million barrels of crude oil for fuel needs in the Orient, one cargo of which has already been shipped on one of the "Shell" tankers.

It is almost safe to assert that in a very few months, if present negotiations are successfully concluded, the "Shell" will be as firmly established in the Californian fields as the Standard, and with this there is no doubt the future success of the State's petroleum industry will be assured.

THE "STANDARD" SOCIÉTÉ ANONYME ROUMAINE DE PÉTROLE.

THE Report of the "Standard" Société Anonyme Roumaine de Pétrole, which has just been issued, states that the gross profit for the year ended June 30th, 1913, totalled 1,022,965 frs., and that general expenses, salaries, hire of cisterns, insurance and interest amounted to 245,020 frs., leaving a net profit of 777,945 frs. Of this sum 100,000 frs. is appropriated for depreciation allowance, though the installations are nearly new, 24,285 frs. for promotion expenses, which are thus entirely paid off, 37,682 frs. for statutory reserve, 100,000 frs. to special reserve, 300,000 frs. for a 12 per cent. dividend to shareholders and 47,000 frs. for fees and gratuities, while 168,976 frs. is carried over. The Report states that the refinery has been extended and completed during the year, and that a contract has been entered into for several years with one of the leading oil companies for the shipping of the products at Constanza. Hitherto the capacity of the works has been 300 tons of crude oil per day, but during the first months of the coming year this will be increased to 500 tons per day. The storage capacity of the reservoirs has been increased by 10,000 tons.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO NOVEMBER 3rd, 1913.

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Belgium ..	—	250	14,290	622,453	—	—	—	—	11,760	55,050	—	120	—	4,910	26,080	693,783
Canada ..	—	—	—	7,040	—	54,050	—	—	—	—	—	—	—	—	—	61,090
Dutch Indies ..	—	—	—	—	—	—	—	—	600,000	36,293,450	—	299,497	—	—	600,000	36,592,947
Germany ..	—	208,220	381,470	3,200,700	—	600	—	159,710	—	51,640	—	490	—	4,610	381,470	3,625,880
Holland ..	—	—	150	9,520	—	—	—	—	434,000	6,782,340	—	—	—	590	434,150	6,792,450
Mexico ..	—	5,753,800	—	—	—	—	—	1,038,280	—	1,528,800	—	12,812,160	—	—	—	21,133,040
Roumania ..	—	16,509,357	—	—	—	—	—	1,150,000	—	2,981,830	—	9,027,540	—	—	—	29,668,727
Russia ..	—	9,844,560	2,560	11,406,850	—	393,390	—	—	—	11,889,350	—	—	—	—	2,560	33,534,150
U.S.A. ..	2,050	98,218,116	703,230	40,543,614	—	212,780	2,109,800	53,800,610	2,815,900	22,773,370	—	4,750,880	34,010	842,935	5,664,990	221,142,305
Other Countries	—	80	3,240	132,330	—	480	—	—	—	4,859,240	—	62,870	—	1,460	3,240	5,056,460
	2,050	130,531,383	1,104,940	55,922,507	—	661,300	2,109,800	56,148,600	3,861,660	87,215,070	—	26,953,467	34,010	854,505	7,112,460	358,300,832

ROUMANIAN CONSOLIDATED OILFIELDS, LTD.

Important Subsidiary Company to go Shortly to Public Issue to Operate in the Chiciura-Gropi Field.

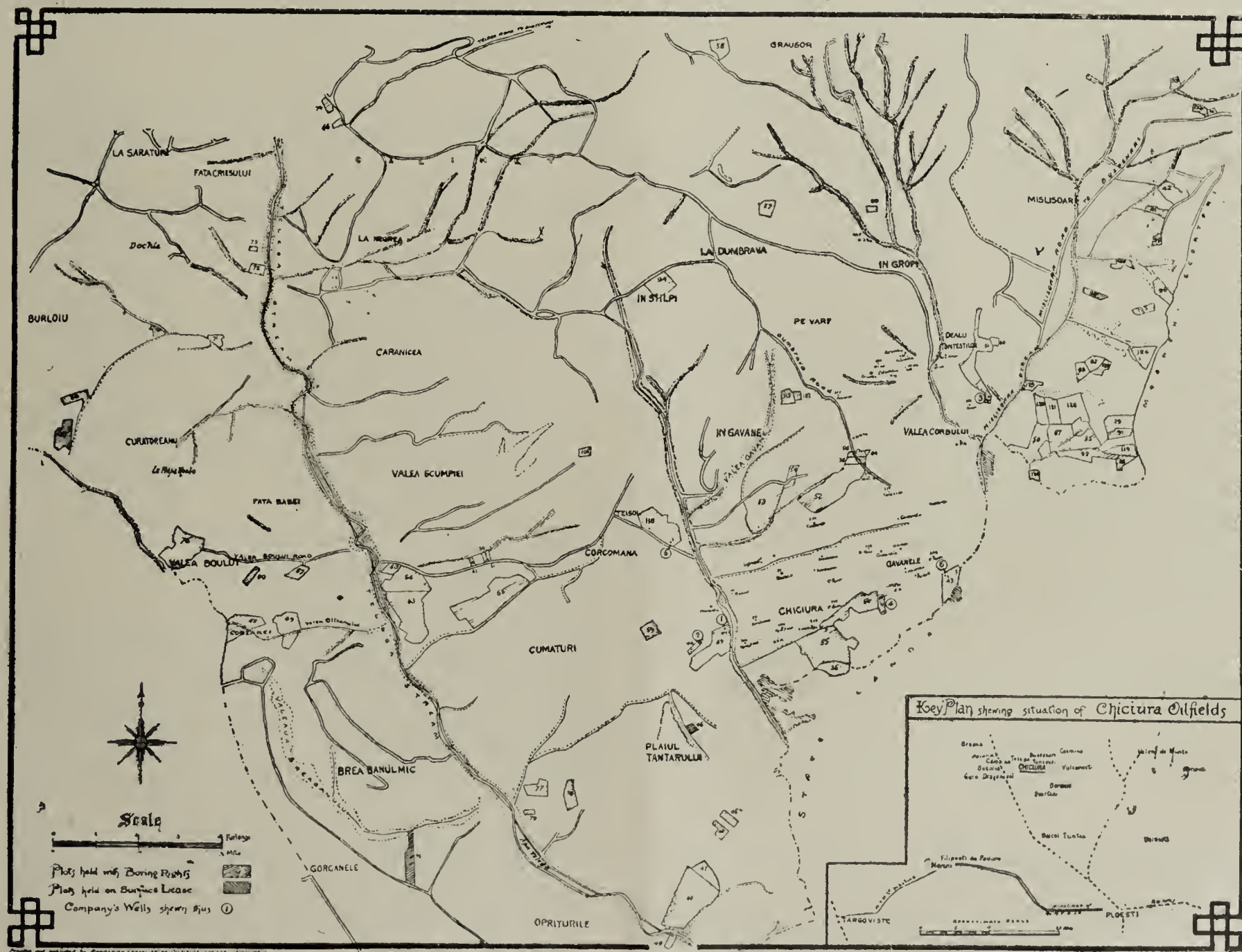
AT yesterday (Friday) afternoon's first ordinary general meeting of the shareholders of the Roumanian Oilfields, Ltd.—a full report of which will appear in our next issue—the company's chairman, Mr. Richard Barnett, made an interesting announcement from which we gather that in the near future the company's subsidiary concern, the Chiciura Oilfields of Roumania, Ltd., which has acquired about 225 acres of the company's lands in the Chiciura-Gropi-Toncesti field, will make a public issue.

The lands which the Chiciura Oilfields has acquired cover a wide area, as the sketch plan here shows, and are recognised as amongst the best in the whole of Roumania, and large as they are, they but represent a small portion of the valuable holdings possessed by the parent company—the Roumanian Consolidated Oilfields, Ltd.

We learn from Mr. Richard Barnett that in forming the Chiciura Oilfields, Ltd., the Roumanian Consolidated

Company has followed the practice which has been adopted by several of the most successful oil undertakings, for not only will the Consolidated retain control of the administration of the new influential concern, but it will purchase its crude oil, and by reason of its substantial holding in the new company it will secure a large proportion of its profits.

The new company will have the advantage of the experience and the technical knowledge which the Roumanian Consolidated Oilfields can place at its disposal, and it will be entirely independent of all marketing difficulties with regard to its production, while it will also take over wells in course of boring, all of which are expected to shortly reach the producing sands. One well already—No. 3—has been proved to be in the same strata as the famous wells of the Colombia and Orion Companies, and this well has now come into production.



The Properties of the Chiciura Oilfields of Roumania, Ltd.

SERIOUS FIRE IN THE ROUMANIAN FIELDS.

Wholesale Destruction of Derricks in Moreni.

DURING the present week a disastrous fire has been raging in the Moreni region of Roumania, and though but few details are to hand, we learn that no less than twenty derricks have been totally destroyed. The fire, which originated in one of the wells of the Romana-

Americana Company, quickly spread to adjoining properties, and at the time of writing (Friday) it has not been totally extinguished.

The greatest sufferers are the Astra-Romana and the Romana-Americana, both companies losing eight or nine wells each, while the Colombia Company lost several, including, it is reported, the famous "gusher." Fortunately, no English interests suffered, although several are operating locally.

IMPROVEMENTS IN THE PARKER MOGUL ROTARY DRILL.

THE J. F. Lucey Co., the well-known makers of oil-well drilling machinery and oilfield equipment, furnish us with particulars of some recent improvements in their Parker Mogul Rotary Drill, which has already made an enviable reputation for itself in the world's oilfields, and particularly quite recently in Trinidad, India and Mexico.

The new Mogul Adjustable Self-Oiling Crown Block is made in three sizes and equipped with five or seven pulleys for rotary or combination work.

The disadvantages of the ordinary crown block are (1) that the pulleys cannot be readily adjusted to suit the positions of the wire lines, thus causing undue wear on both the ropes and the pulleys, and (2) that to keep the pulleys oiled it is necessary to frequently mount to the top of the derrick—an irksome duty generally neglected, with results fatal to the life of the wire ropes.

With this new crown block these difficulties are overcome. Each of the pulleys can be fixed in any position and adjusted to any desired angle on the "I" beams by merely loosening the bolts and moving the clamps as required. This enables the wire lines to run over the pulleys with a minimum amount of friction.

These pulleys are equipped with an extremely simple and ingenious self-oiling feature, each pulley holding a pint and a half of oil, enabling them to run for several months without attention. Another good point is that the grooves of the pulleys are machined. The saving of wire line effected by the use of this crown block will be apparent.

Important improvements have been made throughout the Mogul Rotary machinery; for example, the pump is now supplied with Vanadium steel valves, having specially hard packing rings, which can be renewed, instead of having to replace the whole valve.

We understand that further Mogul inventions will shortly be placed on the market, including a new rotary gripping device, which does away with all possibility of crushing the drill pipe, an extra large rotary swivel, and reversible chain tongs, for all of which patent applications have been filed.

Full information regarding the above can be obtained from the London office of the J. F. Lucey Co., 1-5, Broad Street House, New Broad Street, London, E.C.

THE STANDARD OIL REFINERY OF ROUMANIA, LTD.

THE first report of the directors of the above company, to be submitted to the shareholders at the first ordinary general meeting, to be held at 20, Eastcheap, London, at noon next Tuesday, states that the company continues to hold all the shares of the Standard Societate Anonima Romana de Petrol, the company owning and working the refinery, and which, as the shareholders are aware, is constituted according to Roumanian law under a special statute, and is operated as an entirely distinct and separate company. It is managed by the following directors of high standing in Roumania, namely, Mr. N. Secoleanu (chairman), Mr. Jules Goldschmidt and Dr. S. Aisinman.

At the recent annual meeting of the Roumanian Company a dividend of 12 per cent. for the year ended June 30th, o.s. (July 13th, n.s.), was declared. The amount receivable by the company from this source is £12,000.

After providing for expenses and writing off one-fifth of the preliminary expenses and underwriting commission, the profit shown amounts to £9,275. 9s. 1d. After deducting the interim dividend (at the rate of 10 per cent. per annum to March 31st, 1913) paid on April 7th last, there remains for appropriation the sum of £3,315. 17s. 7d.

The directors recommend the distribution of a final dividend at the rate of 10 per cent. per annum for the period from March 31st to July 15th, 1913, on the Preference and Ordinary shares, which will absorb £3,194. 10s. 6d., leaving £121. 7s. 1d. to be carried forward. Such dividend will be paid, less tax, on November 15th, 1913.

Sir Murland Evans, Bart., having been elected an additional director by the board, his name will be submitted to the meeting for re-election.

The director who retires in accordance with the articles of association is Mr. Edward Tozer, who is eligible and offers himself for re-election.

PETROLEUM AND PRODUCTS IN STORE IN THE BAKU REFINERIES ON SEPTEMBER 1st.

THE stores of petroleum and products in the Baku refineries on September 1st were as follows:—

	Poods.
Crude Oil	15,809,357
Kerosene	3,650,102
Lubricating Oils	1,427,606
Solar Oils, Light	798,298
" " Heavy	726,611
Benzine	788,663
Residuals	10,736,143
Goudron	252,647
Other Products	25,918
Total	34,215,345

PATENTS.

Specially contributed by Messrs. EDWARD EVANS & CO., Consulting Engineers, Chartered Patent Agents and Enrolled Patent Attorneys of the United States, of 27, Chancery Lane, London, W.C.
The undermentioned "Applications Published" are all in the stage in which opposition to the grant of patents upon them can be made.
Messrs. EDWARD EVANS & CO. would be pleased to forward a copy of any of the Specifications on request, and on remittance of a P.O. for 1s. to cover cost and postage. They would also be pleased to advise upon the novelty, subject matter, and value of any invention submitted to them by our subscribers.

APPLICATIONS PUBLISHED.

Process for treating and refining crude petroleum, its heavy lubricating distillates, lubricating mineral oils, paraffin and ceresin.—Grigori Petroff, of Kuskowo, on the Moscow-Nyne-Nowgorod Railway, Russia. No. 19,676 of 1912. This relates to a process for treating and refining crude petroleum, its heavy lubricating distillates, lubricating mineral oils, paraffin and ceresin, which consists in surrounding these products after their treatment with sulphuric acid or fuming sulphuric acids, and before their treatment with water and alkali if necessary for the purpose of separating the sulphoacids, with ethyl or methy-alcohol or acetone or other organic solvents which dissolve in water in a pure state or mixed with water.

Apparatus for vapourising oil.—Sydney Crosbie, of The Chestnuts, New Barnet, Hertfordshire. No. 19,881 of 1912. This relates to a vapourising apparatus in which the devices operating to effect the feed of oil and air with a simultaneous mechanical automising carburetting and vapourising of the oil fuel are operatively connected and driven from a single source

The Petroleum and Natural Gas Resources of Canada.

By Messrs. FREDERICK G. CLAPP and L. G. HUNTLEY.

*An Informative -
Summarised - -
Report. - - -*

(Concluded from page 478.)

THE surface strata in the New Brunswick field consist of Carboniferous sandstones and shales, under which Devonian sandstones and shales are productive. The oil and gas comes from three groups of sands, each consisting of a number of lenses.

Wells in the Stony Creek field range from 1,200 to 2,000 ft. deep. They are now spaced up to half-a-mile apart, although at first they were sometimes placed only 600 ft. apart. The Pennsylvania method of drilling is used exclusively, with 72 ft. standard derricks. The usual cost is about \$10,000 for each well.

The gas is very dry, and analysis has proven it unsuitable for the manufacture of gasoline. It is sold in Moncton and Hillsborough for domestic consumption at 40 cents per thousand, and for gas engine use at 27 cents per thousand.

Drilling in the oilfields at Dover and Memramcook was commenced in 1901, and a pumping area of 24 square miles between the tidal water of Petitecodiac and Memramcook rivers was developed, but the wells had extremely small production and have long since been abandoned.

The oil produced in the Stony Creek gasfield is retailed locally for \$4 per barrel, although most of it is sold to the Intercolonial railway at \$1.75 per barrel for making Pintsch gas.

Drilling in the Ontario oil and gas fields commenced in the early sixties, coincident with the development of the prolific fields of north-western Pennsylvania. The gasfields in Welland and Haldimand counties were developed, and more recently have been extended westward along the lake shore in a belt over 90 miles long and from 3 to 4 miles in width. Some good gas wells have also been drilled at Canborough and Caistorville in Haldimand county. Meanwhile the older gas-producing districts of those counties have been practically exhausted. While new production will be developed from time to time in small areas, and oilfields enlarged to some extent, yet the production, both of petroleum and natural gas, in Ontario, is on the decline, and the total depletion of the underground supply is approaching. There may be some hope of discovering oil in the Trenton limestone by deeper drilling, but as yet no oil or gas has been found in quantity in this formation in Ontario.

In Welland, Haldimand, Norfolk, and Elgin counties, the larger companies are making strenuous efforts to discover gas. In Haldimand county some new gas has been developed at Selkirk, and along the lake front in this vicinity, and also at Canborough in the northern part of the county. A gasfield has also been developed within the past five or six years in Tilbury, Romney, and Raleigh townships in Kent county. The gas from this field is consumed in Kent, Essex, and Lambton

counties. In Norfolk county the Dominion Natural Gas Company has developed a gasfield south of Simcoe, and this company is trying to extend it south-west to Port Royal and Port Rowan. The gas is piped to Hamilton and intermediate points. At Delhi in the same county a local company has drilled a half-dozen gas wells inside the town limits within the past two years, the gas being used for local consumption. In Elgin county the companies are developing a promising pool in Bayham township in the vicinity of Vienna and Port Burwell. Pipe lines from this district supply the towns of Tilsonburg and Aylmer.

The oil production in the vicinity of Leamington in Essex county was abandoned in 1907, the district having been flooded by salt water. The prolific pools at Petrolia and Oil Springs in Lambton county continue to produce, showing a steady annual decline, as no new wells are being drilled. The same applies to the Bothwell field in Kent county, which exhibits the same characteristics as the pools in Lambton county. Careful methods of production, combined with very favourable underground conditions, have made the production of these pools a remarkable one, considering the small average production per well. In 1910 a new oilfield was discovered and is being developed in Onondaga township, Brant county. The field also produces some gas; but owing to the character of the productive formations, the composition of the oil, and the rapid decline of the gas pressure, the pool does not promise as long a life as that of the older fields.

While the former oil pool in Romney township, Kent county, has been abandoned, a large gas production has been developed in this and in Tilbury and Raleigh townships, and is used to supply domestic consumption in Kent, Essex, and Lambton counties. A little gas is still piped from the vicinity of Dutton and utilised in Kent county.

The gas from the Welland, Haldimand, Norfolk, and Elgin county fields is all found in the Clinton and Medina formations, at depths varying from 500 ft. in Welland county to 1,400 ft. in Bayham township in Elgin county. The Tilbury-Romney pool, however, produces gas from just below the Big Lime, in depth from 1,425 to 1,450 ft. The Clinton and Medina formations west of Chatham are too broken and shaly to contain oil or gas.

In both Caistor and Canborough townships in Haldimand county the rock pressure averages 200 lbs., while the wells produce from 46,000 to 800,000 cubic ft. per day. At Selkirk the pressures are about the same, although originally the initial pressure was near 500 lbs. The wells average less than 200,000 cubic ft. initial production. A few small gas wells at Middleport and Caledonia average from 40 to 130 lbs. pressure, with correspondingly small production. The six gas wells

at Delhi, Norfolk county, produce 2,000,000 cubic ft. per day, and have a rock pressure of 375 lbs., this having been initially over 500 lbs. The pressures in the Sincoec pool were initially from 560 to 650 lbs., although they have declined to about 350 lbs. at present. The wells range in production from 15,000 to 500,000 cubic ft. per day. A similar condition is true of the Vienna pool in Bayham township, Elgin county, although the initial pressures here were as high as 780 lbs., with correspondingly high production. The field has been drawn upon for only a year, since the completion of the pipe line to Tilsonburg. These fields all produce from the Clinton and Medina formations. The Tilbury-Romney pool in Kent county produces about 15,000,000 cubic ft. per day from approximately 110 producing wells. The pressure in this district is about 600 lbs.

The oil production in Lambton county, coming from the famous Oil Springs and Petrolia pools, amounted in 1912 to about 200,000 barrels. Production is decreasingly regularly, and wells are being abandoned from the outer edge of the pool inward. In the Petrolia pool about 4,000 wells are still producing, as against 7,000 in 1910. The abandonment has been at a slightly less rate in the Oil Springs pool. No water problem has developed, and this field exhibits the comparatively rare phenomenon of an oil pool declining from the single cause of the exhaustion of the underground supply. No new wells are being drilled in Lambton county. The Bothwell pool in Kent county is exhibiting similar characteristics. The field still produces from 2,500 to 3,000 barrels per month, and shows no sign of exhaustion, although no new wells are being drilled. At Dutton, some oil is still being produced from the Medina formation, but the pool is on the decline and no new production is taking its place.

Wells in the new field in Onondaga township, Brant county, for which large predictions were made, have declined rapidly. The oil comes from a close, fine-grained sand, and since the gas is being drained from the pool rapidly, the production of the oil wells is declining, although the average is kept up to some extent by drilling new wells. In 1912 the production of this field was about 2,500 barrels of oil per month, and about 10,000,000 cubic ft. of gas per month was being used in Brantford and the vicinity from this pool. The initial rock pressure of 235 lbs. when the pool was discovered two years ago has declined to 175 lbs. The oil wells have an average production of one barrel of oil per day, all being pumpers. Wells are spaced too closely in most parts of the pool. A plant for the recovery of gasoline from the casing-head gas of this pool has been erected, but in July, 1912, it had not been operated.

Office work is now being carried on by both of the authors as continuously as possible without interfering with other necessary work, and it is hoped the complete report may be ready for the press within a few months. Although this summary report contains no illustrations the complete monograph on "The Petroleum and Natural Gas Resources of Canada" will contain numerous illustrations of the fields, of methods employed in the business, and also maps showing distribution of petroleum and natural gas fields, pipe lines, refineries, and other data of importance. Quite a number of well records have been collected from various parts of the Dominion, and these also will be included under the respective fields. Some mention will be made of the possibilities for petroleum in the northern provinces of the Dominion, which have never been tested and which are not mentioned in this summary report.

NEW ENGLISH COMPANIES.

VENEZUELA PETROLEUM EXPLORATION, LTD.

REGISTERED on November 3rd, by Salter, Lees, 30, Great St. Helens, E.C. Capital £10,000 in £1 shares. Objects: To carry on the business indicated by the title and of oil refiners. Minimum cash subscription, seven shares. Signatories: F. G. Salter and W. D. Lees, both of 30, Great St. Helens, E.C. First directors (who are to number not less than two nor more than seven) are to be appointed by signatories.

THE BRITISH OKLAHOMA OIL AND DRILLING SYNDICATE, LTD.

Registered on November 3rd, by H. G. Warner & Co., 1, Great Winchester Street, E.C. Capital, £5,000 in £1 shares. Objects: To carry on the business indicated by the title, and to enter into an agreement with the Canadian & South American Syndicate, Ltd. Minimum cash subscription, seven shares. Signatories include H. Warner, 1, Great Winchester Street, E.C., and L. A. Noall, "Northway," 250, Barry Road, Dulwich, S.E. First directors (who are to number not less than two nor more than six) are to be appointed by signatories. Qualification of directors, £100. Remuneration, £50 each per annum (chairman, £75).

CAUCASIAN (TCHERMOWEFF) OILFIELDS, LTD.

Registered on October 30th, by Mayo, Elder & Co., 10, Drapers' Gardens, E.C. Capital, £100 in 10s. shares. Objects: To acquire oil-bearing lands and other properties and to prospect for and develop same, and to carry on the business of oil refiners, etc. Minimum cash subscription, seven shares. First directors (who are to number not less than two nor more than seven) are to be appointed by signatories. Qualification, £250. Remuneration, £200 each per annum (chairman, £300).

ECONOMIN MOTOR SPIRIT COMPANY, LTD.

Registered on October 29th, by Speyer & Sons, Austin Friars House, Austin Friars, E.C. Capital, £350,000 in £1 shares. Objects: To carry on the business of manufacturers and suppliers of and dealers in motor spirit, all kinds of crude petroleum, shale oils and other similar substances, also to enter into an agreement with the Economin Syndicate, Ltd. Minimum cash subscription, 50,000 shares. Signatories include G. S. Grundy, 38, Vincent Square, S.W., and Charles R. Baker, 32, Jenner Road, S.W. First directors (who are to number not less than three nor more than seven) are to be appointed by signatories. Qualification, 250 shares. Remuneration, £200 each per annum (chairman, £250) and a percentage of the dividends.

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THE OILFIELDS OF BURMA.

Their History and Development.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

*Reprinted from
"Memoirs of the
Geological Survey
of India."
Volume XL, Part I.*

(Continued from page 466.)

My visit to Ramri Island took place in December, 1908, and January, 1909. A detailed examination was made of the northern corner of the island, north of the line joining Minbyin with the mouth of the Sittaw Chaung, including the chief oilfield of Yenandaung, about $1\frac{1}{2}$ miles N.E. of Minbyin. A rapid march overland was also made to Ledaung—some 24 miles S.S.E. of Yenandaung—and the wells here inspected. The following account of the rocks and structure therefore applies to the northern corner of the island, to the Ledaung tract and to the strip of coast connecting the two. Oil is found in a number of places scattered about the island, but there seems to be a barren tract immediately around and north and south of Ramri town.

The island is evidently a raised archipelago, consisting of an extensive flat of silt, through which project the original islands in the form of hill ranges and hill tracts. In the central parts these hill tracts predominate over the recent silt, but the ground around and south of Kyaukphyu consists mostly of silt. The latter, where argillaceous, is generally swampy and affords excellent facilities for growing paddy. Most of the creeks are tidal, and contain brackish water. The hills rise occasionally to 500 ft., and are clothed with thick jungle. "Raised Beaches," consisting of shingle, sand and sea-shells, and old sea cliffs, are to be seen along the west coast.

The rocks consist of sandstones and clays with occasional thin bands of conglomerate. The sandstones are either moderately firm, or else highly calcareous, forming a hard ringing stone, grey in colour, weathering brown, and along the coast much bored by molluscs; their texture varies from a moderately fine even-grained stone to a coarse rock, containing small quartz pebbles, grains of mica, and pebbles of clay up to $\frac{1}{2}$ in. across. They are very commonly veined with calcite, sometimes extensively so, and there is an irregular jointing present in some places. The sandstones are frequently massive, especially where they form the tops of the loftier hill ranges: near Pyade they are carbonaceous. Some of the clays pass into shale, others are brittle, blue-grey in colour, and are frequently jointed by a system of irregular curved planes which split the rock up into a great number of small prismatic pencils, 6 to 8 ins. long and $\frac{1}{2}$ in. to 1 in. or so in thickness. These pencils lie parallel to the strike of the beds, and have evidently been produced by the sharp folding. Soft blue clay like that occurring elsewhere in Pegu beds is occasionally seen, *e.g.*, just north of Zinchaung. Sometimes we find alternating bands of sandstone and clay, each from a few inches to a foot or more thick. Mallet, speaking of the islands generally, says that shales constitute an important proportion of the entire

bulk, and are occasionally gypseous, containing small disseminated crystals of selenite, and also small nodules of clay iron-stone. He mentions selenite as being sparsely disseminated through shales at Kyauk Tyan (south of Ramri Island) and Amherst Island. I was unable to find any selenite myself in the parts I visited. Calcite is abundant in some spots, and can be picked up in crystalline lumps; strings and veins of calcareous matter are also common among the beds.

Besides mere pools of saline muddy water up which gas and possibly a little oil rises, there are two varieties of mud vents. In one, mud alone is ejected, and may be viscous enough to build up a steep cone; in the other, fragments of fractured country rock are thrown out as well as mud in paroxysmal outbursts, often with the accompaniment of flames caused by ignition of the gas. Mallet states that the fragments vary from $\frac{1}{2}$ in. to $\frac{1}{2}$ cubic ft., or rarely to a foot, the majority being 4 to 5 ins. There are a few blocks on Pagoda Hill (Cheduba) of 3 to 4 cubic ft. or more. The large mud volcanoes in the Sittawywa Kwin are very much flatter than those seen at Minbu, and have covered a large area at one time or another with eruptive mud and rock fragments. The Sittawywa vents and the larger vents generally of Ramri and Cheduba Islands are of this explosive type. Mallet speaks of not infrequent fiery eruptions from the Sittawywa vents, and considers they lie upon a fissure. The flames which frequently accompany an outburst, and which have no doubt given rise to the idea that the phenomenon was of a genuine volcanic nature, are the result of friction between the particles of hard sandstone hurled up by the explosion, and electricity generated therefrom. Flames are typical of, if not absolutely confined to, explosive eruptions where solid hard fragments are ejected, and give rise to spectacles of much grandeur, such as the celebrated Cheduba "volcano" occasionally exhibits. Rumbling noises beneath the surface due to the fracture and upward ejection of hard rocks are usually heard. Mallet thought the evidence clear as to the intimate connection of the Ramri salses with seismic phenomena.

That the oil has collected beneath the crests of anticlines is surmised rather than proved. There must be a great deal of distortion and fracturing in the deeper parts of such acute flexures, and the mode of occurrence of oil is obscure. Taking the Minbyin oilfield, the only one which has been extensively explored, the facts are briefly as follows:—

Oil wells lie along or close to two parallel lines, or small, narrow bands roughly 300 yds. apart, and running N.N.W. to S.S.E., the tract between being practically barren. There are no hard and fast boundaries between this barren tract and the two petroliferous bands which are comparable to Höfer's "Ollinien" on a small scale.

In the centre and south we get two transverse tracts of very small wells practically bridging the two N.N.W. to S.S.E. The beds in the few sections observable are all dipping at high angles. To deduce two anticlinal folds here would be to make the thickness of the beds unusually small—less than 450 ft.—and this does not tally with the evidence supplied by the mud vents and gas pools, such as it is. More probably the two parallel bands represent an oil sand in the two limbs of an anticline, which crops out at the surface but which has become impervious and unpetroliferous in its upper parts. These impervious parts, together with the underlying and overlying clay, now form the “cap” which has prevented all the oil from escaping at the surface. Oil sand does crop out here and there in some of the streams, and in early times oil was collected practically at the surface in the watercourses. The few small wells between the two bands either tap lower horizons, or happen to have struck some wandering fissures.

The oil sand is a fairly firm rock, and is only porous enough to hold small quantities of oil which dribble into the wells very slowly indeed. Oil is also described as occurring in the clays, but has probably found its way between the joints of the latter produced by the severe folding.

The above supposition seems to fit the existence of the two parallel bands, which cannot be a mere coincidence, since we have two similar parallel lines or bands at Ledaung.

Oil wells in the island are said to have been worked before the annexation. The native workers, who belong to no specific class, have shown themselves more enterprising than those at Yenangyaung, and have adopted a system of drilling modified on the rod method used in Canada; this they learnt from Canadian drillers employed by the Australian and Baronga Oil Companies. A tripod of three hewn tree trunks, about 40 or 50 ft. long, is erected as a primitive derrick, supporting a pulley, over which passes a rope, as seen in the illustration here given. To one end of this is attached the drilling tool, which is chisel-shaped; the other end is fastened to a wooden lever worked by coolies, who can thus raise the chisel and let it drop alternately. A slight improvement on this, and a method I saw used in cleaning a well, is to have two ropes connected with the chisel; one of these is fastened to the lever and raises the chisel, the other having been coiled once or twice round a large wooden log, is then tightened and held firmly by one man; the

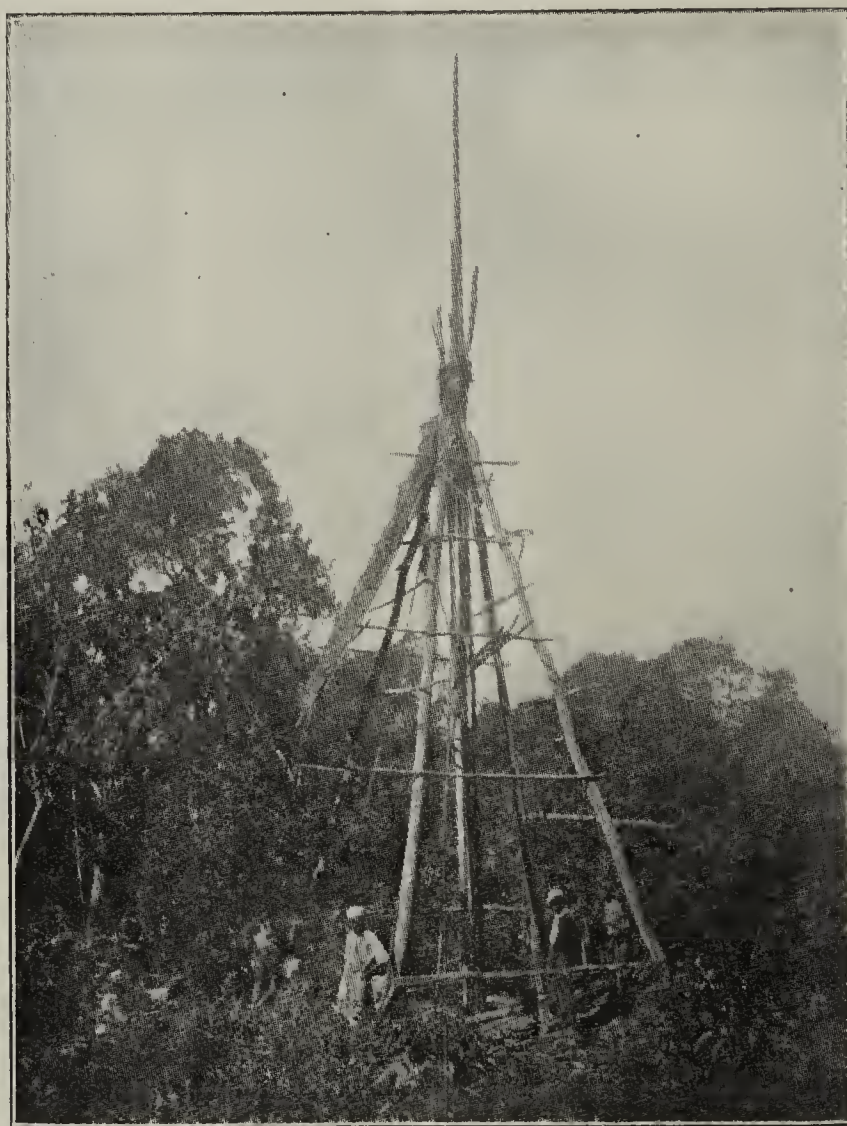
coolies at the lever then let go, and the weight of the chisel is borne by the second rope passing round the log. The man holding this then lets go, and the chisel falls, and falls more freely than it could if several men tried to let go a lever at the same identical moment. As the chisel disappears little by little down the hole, wooden rods are screwed on to the end of it; the “drillings” are baled out in the usual way with a “sand pump” or “baler.” The same system of drilling on a more elaborate plan has been used by the companies, and their wells have been cased for the first 18 to 20 ft. No further casing is necessary as the wells are never more than 500 ft. deep, and the strata firm. Many of the derricks are thatched as a protective measure against the heavy rain, the fall of which is about 175 ins. a year.

The oil varies in colour from a dark red to a very light straw, and the specific gravity varies with the colour, that of the darker oil being about .880, and that of the lightest .756. The latter is found at Ledaung, and the heavier varieties at Minbyin, while at Kyaukpyauk occurs an oil of intermediate grade—specific gravity .802. The oil is of a very pure quality, contains very little paraffin, and is used locally by the Arakanese in its unrefined state; the Minbyin oil is simply distilled, that from Ledaung can be burnt in its crude state. There is a small refinery at Ngalapwe, where a little is refined for private consumption.

Most of the oil in the Minbyin field is taken from depths between 250 and 300 ft., but some of the wells are nearly 500 ft. deep; it is variously stated that

the Bernard well reached a depth of 1,000 or 1,200 ft., but struck no oil. Formerly, wells were dug only a few feet deep, and yielded one or two gallons daily; 5 cubits and 50 cubits depth were the two main horizons then. With the above described modified drilling apparatus, natives can drill to 400 ft. The best wells, according to Mr. M'Carren, formerly of the Australian Oil Company, obtained oil from a sand 150 ft. deep, and small shows are still got from this horizon; most of the wells at present produce from 300 ft. or thereabout. The richest well is said to have flowed 80 barrels the first day, but I could find no one who had seen it, and I put no faith in the rumour at all. Mr. M'Carren says that he himself drilled a well which started at 30 barrels the first day, and this is the richest he has ever experienced during 25 years' residence in the island. The oil percolates very slowly and some of the wells producing at the present day are 30 years old.

(To be continued.)



Arakanese Drilling a Well in the Minbyin Field.

American Petroleum Production during 1912.

An Exhaustive
and Important
Bulletin.

Dr. DAVID T. DAY'S OFFICIAL REPORT.

(Continued from page 476.)

TEXAS.

To express the statistical condition of the oil industry in Texas and connect the developments of the last two years with a reasonable view of the future oil possibilities of the State, it would be fair to say that if the legislators of that great Commonwealth could by any means be induced to provide for an adequate geologic survey of the State—such a survey as has proved so beneficial in Illinois, Ohio, Kansas, Kentucky, New York, and New Jersey—or if the attention of the governing powers could be fruitfully directed to the object lesson of the beneficial geologic co-operation between the young neighbouring State of Oklahoma and the United States Geological Survey, Texas would soon rank next to California as an oil producer.

The time is opportune for an oil survey of Texas—a public examination by the officials of the State rather than by the corporations of the State. This will probably be obvious when it is considered that a comparatively accidental development in North Texas during the last two years of oil territory, none too promising in the beginning, yielded in 1912 a total of 5,275,529 barrels—almost as much as the old producers in the Gulf region, and 45 per cent. of the total production of the State. When it is further considered that oil indications have been recognised and spasmodic

efforts at drilling have been attempted on the lands of citizens in 50 or more counties of the State, and that oil has been found on lands belonging to the State, it seems still more obvious that a general investigation might be profitable to the State at large, and might so direct future private development as to minimise wasteful effort, and give the citizens themselves the greatest gain from their own property at the least sacrifice to outside corporations.

In 1912 interest centred in the high-grade oils found in the Electra field, in Wichita county, and the Petrolia field, in Clay county, on the northern edge of the State. Developments in the Electra field were very satisfactory during the year, and not only led to wildcatting in the adjacent counties, but stimulated activity in distant counties, which resulted in a good outlook for an oil and gas field at Trickham, in Coleman county. At Burkburnett, on the northern edge of Wichita county, a good well was brought in by the Corsicana Oil Company, and the development of a considerable field is probable. These developments also stimulated much drilling in the adjoining counties of Oklahoma.

The output for the State increased from 9,526,474 barrels in 1911 to 11,735,057 barrels in 1912, an increase of 2,208,583 barrels, or 23.18 per cent. In the following table is given the production and value of petroleum in Northern and Coastal Texas, 1903–1912, in barrels :

Year.	Northern Texas.		Coastal Texas.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
1903	501,960	\$515,314	17,453,612	\$7,002,165	17,955,572	\$7,517,479
1904	569,102	412,360	21,672,311	7,743,860	22,241,413	8,152,220
1905	520,282	361,604	27,615,907	7,190,658	28,136,187	7,552,262
1906	1,117,905	740,542	11,449,992	5,825,036	12,567,897	6,565,578
1907	912,618	721,577	11,410,078	9,680,286	12,322,696	10,401,863
1908	723,264	479,072	10,483,200	6,221,636	11,206,464	6,700,708
1909	681,940	393,732	8,852,527	6,399,318	9,534,467	6,793,050
1910	969,403	505,396	7,929,863	6,100,359	8,899,266	6,605,755
1911	2,251,193	1,213,960	7,275,281	5,340,592	9,526,474	6,554,552
1912	5,275,529	4,112,826	6,459,528	4,739,887	11,735,057	8,852,713

NUMBER OF WELLS COMPLETED IN NORTHERN TEXAS, 1908–1912, BY MONTHS.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1908.. ..	3	8	6	11	5	7	5	6	5	10	7	8	81
1909.. ..	6	4	—	8	22	20	21	11	19	14	31	13	(a) 175
1910.. ..	(b)	26	19	29	15	20	22	12	21	8	12	6	190
1911.. ..	9	15	10	22	3	—	10	6	9	7	14	21	126
1912.. ..	4	24	31	44	49	31	32	53	32	55	42	37	434

(a) South Bosque not reported by months.

(b) No record.

NUMBER OF OIL WELLS DRILLED IN NORTHERN TEXAS, 1908–1912, BY MONTHS.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1908.. ..	2	7	5	7	4	4	3	4	2	7	6	6	57
1909.. ..	—	2	—	4	18	15	17	7	12	10	20	6	(a) 116
1910.. ..	(b)	20	13	20	10	12	8	6	11	2	5	1	108
1911.. ..	2	7	4	13	1	—	7	3	9	7	12	19	84
1912.. ..	4	21	22	33	38	12	20	34	22	44	22	27	299

(a) South Bosque not reported by months.

(b) No record.

(To be continued.)

RUSSIAN AND ROUMANIAN NOTES.

RUSSIAN.

An Important Sale.—The well-known fields of the firm Rilski have been purchased by the Paris firm of Louis Dreyfus at a price of at least 4,000,000 roubles lower than their value.

Petroleum Industry Taxed by the Zemstos.—The Ministry of Finance intends to annul the decision of the Baku Government Administration to levy a 2 per cent. tax on the production of petroleum in the Baku province.

The Official Close of the Baku Strike.—The chief of the Baku police has informed the governor of the Caucasus that the strike on the fields of Nobel, at the engineering works of Benkendorf, ceased on September 30th last.

Fighting Against High Prices of Fuel.—The Astrakhan Exchange committee is initiating a project to organise a national siezd of consumers of liquid fuel to elaborate a measure for fighting high prices of petroleum and to find out methods of making oil cheaper.

Suggested Petroleum High School.—Prof. K. W. Kharitchoff has approached the authorities with a scheme of opening in St. Petersburg a high school on petroleum subjects. Only persons who have completed their education at high schools, such as polytechnics, technological and mining institutes will be admitted as students.

Auction Leases of Petroliferous Plots.—The unsuccessful auctions for the exploitation of petroliferous plots on the Apsheron Peninsula, on May 30th last, have induced the Ministry of Trade and Industry to reconsider the conditions for leasing State petroliferous lands. At the same time the Ministry is considering a supplementary lease of thirty-two plots of a total area of 172 dessiatines, which will take place before the end of the year.

Tariff on Export of Petroleum.—The Moscow Exchange has expressed its sympathy with the project of annulling the privileged export tariffs on petroleum products. The Ministry of Ways of Communication also considers the measure is quite desirable and urgent. On the other side the Tariffs Siezd is of opinion that the new project of the Ministry of Trade and Industry will destroy the export of kerosene abroad and thus handicap the whole petroleum industry.

Tcheleken.—The Turkestan governor has approved of the new regulation of leasing petroliferous plots on the Isle of Tcheleken. All the plots are divided into two classes, the first of which includes the lands for buildings, installations, etc., the rent for which is fixed at a rate of 50 roubles per dessiatine. The second class of plots includes all lands on which actual exploitation is already taking place or is still to be organised. The firms possessing such plots are at present Nobel Bros., Gadjinski, Wishaw and the Tehirken Company. The rent for the second class plots is fixed at the rate of 300 roubles per dessiatine.

Opening of State Properties on the Grosny District for Private Exploitation.—The Ministry of Trade and Industry has published an order to open State properties in the Grosny and Khasav-Iurt district of the Terski province. These lands, at present covered with forests, are very rich in minerals, and the opening for exploitation is expected to considerably increase the mining industry of the district. There is also under consideration a question of opening a shore line on the Black Sea, from Anapa up to the Turkish frontier, covering a distance of 25 versts.

American Petroleum for Russian Railways.—The Trans-Caucasian railways have commenced to look for their fuel abroad. At the beginning they were in negotiations with many firms, but without success; at present negotiations with American firms have ended successfully, and the administration of the railways has already ordered from the Anglo-Mexican Petroleum Products Company 2,500,000 poods of residuals at the price of 40 copecs per pood, delivery Batoum. There is also under consideration another deal between the same parties for 15,000,000 poods of liquid fuel, to be delivered at the price of 40 copecs per pood during the year.

Samara Petroleum.—Exploration work is proceeding in the Buguruslan district, near the village Kamishl, by Baku petroleum producers. The first indications of the existence of petroleum in the Samara province date from the eighteenth century, when the

celebrated geologist—Palace—definitely mentioned the discovery of petroleum near Sergiersk and also in the district of the River Sheshma. Further indications have been repeatedly mentioned by many specialists, the latest of whom is Mr. V. D. Sokoloff, who has been carrying out exhaustive investigations in the district, the results of which have been published by him under the heading of "Shungut Petroleum," in which he seriously advises the exploration of petroleum on Rilikoff's lands.

ROUMANIAN.

Exportation.—Exportation has now been resumed with great activity and many steamers are at present due at Constanza.

Astra-Romana.—The production of this company now averages 1,330 tons a day, of which over 1,000 tons are produced at Stavropoleos.

Victoria.—This company has now acquired a concession at Gropi, of an area of 2 pogones, where several wells will be drilled. The field is very promising and an abundant production is expected.

General Production.—The general production is maintained at an average of 5,600 tons a day. Well No. 302 of the Orion Company continues to produce about 200 tons a day by regular eruptions.

Colombia.—We regret to announce the death of Mr. E. Dupasseur, director of the Banque de Paris et des Pays-Bas, and vice-chairman of the Colombia Company, to the progress of which he has considerably contributed by his high competence and interest in the concern.

Prices.—Prices of crude oil remain high as there is a scarcity of oil on the market, and the small refiners who have not their own production are willingly paying high prices in order to work their refineries to the full capacity. The prices of products on the interior market are stationary.

Orion.—The production of this company is maintained at an average of 350 to 400 tons a day, of which 170 to 200 tons are produced on the Tzintea field and 180 to 200 tons from well No. 302 at Gropi. The eruptions from this latter well continue regularly, yielding a very good crude oil of a specific gravity 0.857.

Beciu Oilfields, Ltd.—This company, the capital of which has recently been increased, has its exploitations at Arbanasi, where eight wells are being drilled, of which three are expected to shortly enter into production. The company has also recently acquired extensive fields at Nicoleshti, where exploitation is very promising.

State Pipeline.—The adjudication for the supply of special mounds and other articles necessary for the pipeline has been accorded to the following firms:—Messrs. Stokvis & Zonen, Ltd., Rotterdam, Bopp & Reuther, Mannheim, and Brauer & Co., Hoechst. The total value of the supply amounts to 322,417 francs.

Traian-Roumanian Oil Company.—The production of this company, from the beginning of its operations on March 17th of this year up to September 30th, has amounted to 2,566 tons. The boring of new wells has been considerably delayed owing to the mobilisation, but recently the work has been resumed, and an important increase in the crude oil output is expected shortly.

The Steaua-Romana.—The production of this company during the past week averaged 1,103 tons a day, of which 507 tons were obtained at Campina and 380 tons at Policiori. Regular eruptions were registered at well No. 160, Gahitza, with 30 tons a day, well No. 1, Moreni, with 91 tons, and well No. 232, Runcu, with 26 tons a day. The wells No. 262 at Campina and No. 2, Arbanasi, have struck oil. Considerable work has been done in boring several other wells. The well No. 1, Moreni, has now established its production at 120 tons a day.

Activity on the Fields.—There prevails at present great activity on the fields so that an important increase in the production may be expected very shortly. Good results are especially expected at Chiciura and Filipeshti. The Steaua-Romana is making new explorations at Ceptura-Rotari, where the prospects are most favourable. Well No. 28 of the Anglo-Roumanian Petroleum Company at Bordeni has now an established production of 200 tons a day. The wells No. 1 Colombia and No. 8 Roma a-Americana at Moreni continue to produce by eruptions about 400 tons a day each.

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

November 7th, 1913.

There are no alterations in the market prices of Refined Petroleum which remain as follows:—
Roumanian 8d.; Russian, 8 $\frac{3}{4}$ d.; Galician, 8 $\frac{1}{4}$ d.; American, 8 $\frac{1}{2}$ d.; American Water White, 9 $\frac{1}{2}$ d.

LUBRICATING OILS.

The official prices are for:—

No. 1 Russian, £12. 2s. 6d.
No. 2 Russian, £10. 17s. 6d.
American pale, from £9. 12s. 6d.
American dark, from £11. 2s. 6d.
American filtered cylinder, from £14. 12s. 6d.

FUEL OIL

70s. per ton, in bulk, ex wharf is the current price.

GREASE-MAKING OIL

is quoted 80s. per ton, in bulk ex wharf.

MOTOR SPIRIT

The price is unchanged at 1s. 9d. per gallon, for best quality and 1s. 7d. for second quality, retail in London.

TURPENTINE.

There has been large business done in American Turpentine during the whole week, and prices have increased. Spot price being 32s.; January/April, 32s. 9d.; May/August, 33s. 9d.

LIVERPOOL.

November 6th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8 $\frac{3}{4}$ d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well, and the holders of American on the spot remain steady.

INDIA.

BOMBAY, October 10th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
" Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, November 6th.

Oklahoma crude is still quoted at \$1.03 per barrel. Refined, in cases, is quoted at 11.00; Standard White, 8.70; Credit balances, 2.50.

PHILADELPHIA, November 6th.

Standard White is quoted at 8.70.

GERMANY.

HAMBURG, November 4th.

The petroleum prices remain unchanged. The demand for kerosene begins to be lively, that for benzine decreasing. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, November 4th.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 46 $\frac{1}{2}$ –47 copecs per pood spot. Mazout, 45–45 $\frac{1}{2}$ copecs. Kerosene, 67–68 copecs.

ROUMANIA. November 4th.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Bushtenari	Francs.
" " " Moreni	...	6.50–7.40
" " " Tzintea	...	5.00–5.80
" " " Policiori	...	4.50–5.00
" " " Bana	...	8.75–9.50
Paraffin	...	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	26.00–26.50
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	18.00–18.50
Residuals, f.o.b. Constanza	...	7.00–7.50
Gas Oil	...	8.00

AUSTRIA. November 4th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 32.50 kronen at Oderberg. Benzine, 740/750, 26 kronen; 750/760, 23 kronen, 760/770, 21 kronen, at Oderberg. Gas oil, 7.30 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, London, E.C., report under date November 6th as follows:—

The market continues quiet, with prices unchanged at last week's quotations, viz.:—

1c 18 $\frac{3}{4}$ × 14	124 sheets	110 lbs.	13/4 $\frac{1}{2}$ to 13/6	per box.
1c 20 × 10	225 "	156 "	19/- to 19/3	"

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

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FOR THE WEEK ENDED NOVEMBER 3RD, 1913 (excluding
Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	No. OF GALS.	PORT WHENCE.
Oct. LONDON—				
28	Mercantile Lighterage Co....	Lub.	37,800	Philadel.
28	Anglo-American Oil Co. ...	"	47,200	"
28	" " " " " " " "	"	26,000	New York
28	Union Lighterage Co. ...	"	16,000	"
28	J. Harrison ...	Lub. Gr.	1,720	Antwerp
29	J. Thompson... ..	Lub.	990	Riga
29	A. H. Gilbert & Co....	"	80	Hamburg
29	Port Authority ...	"	240	"
29	Grindley & Co. ...	"	39,780	New York
29	Vacuum Oil Co. ...	"	44,800	"
29	" " " " " " " "	Lub. Gr.	370	"
29	Mercantile Lighterage Co. ..	Lub.	36,800	"
29	J. Spurling ...	Lub. Gr.	200	"
29	Anglo-American Oil Co. ...	Naphtha	2,815,640	"
29	Motor Petrol Association ...	Benzine	3,500	Brussels
30	" " " " " " " "	"	4,400	"
30	" " " " " " " "	"	3,860	"
30	Anglo-American Oil Co. ...	Gas	2,109,800	New York
30	A. Duckham & Co. ...	Lub.	400	Antwerp
31	Asiatic Petroleum Co. ...	Benzine	600,000	Balek Pappan
31	Universal Shipping and Forwarding Co.	"	260	New York
31	L. & N.W. Railway ...	Lub.	490	"
31	L. Freeland ...	Lub. Gr.	130	Antwerp
31	A. Duckham & Co. ...	"	130	"
31	Port Authority ...	Lub.	220	"
Nov.				
1	" " " " " " " "	"	1,260	New York
1	" " " " " " " "	"	220	Hamburg
3	E. G. Boize ...	"	110	"
3	Snowdon, Sons & Co. ...	"	2,500	"
3	Leach & Co. ...	"	240	Ghent
3	British and Foreign Wharf	Lub. Gr.	160	Antwerp
3	Langley, Smith & Co. ...	Lub.	8,810	New York
3	F. Chiesman & Co. ...	"	6,380	"
3	Scott's Wharf ...	"	7,500	"
3	Produce Brokers Co. ...	"	4,000	"
3	Mercantile Lighterage Co. ...	"	1,000	Baltimore
3	Bowring Petroleum Co. ...	"	2,770	Philadel.
Oct. LIVERPOOL—				
28	White Star Line ...	"	1,000	New York
28	Vacuum Oil Co. ...	"	1,970	"
28	Burnaby & Chantrell ...	Lub. Gr.	1,660	"
28	W. H. Nott & Co. ...	"	240	"
28	Worthington & Boler ...	Lub.	5,960	"
28	Pickford's ...	Lub. Oil and Paste	320	Hamburg
29	Dee Oil Co. ...	Lub.	480	"
29	J. Light & Son ...	Lub. Gr.	200	"
29	Huxley & Co. ...	Lub.	1,060	New York
29	W. Gibson & Sons ...	Lamp	2,050	Boston
30	C. C. Wakefield & Co. ...	Lub. Gr.	80	Antwerp
30	Liverpool Warehousing Co. ...	Lub.	1,200	New York
30	Vacuum Oil Co. ...	"	8,440	N. News
30	Cunard Steamship Co. ...	"	600	New York
30	Bowring Petroleum Co. ...	"	1,020	Philadel.
31	Stockdale & Doel ...	"	18,900	"
31	Anglo-American Oil Co. ...	"	7,200	New York
31	Dee Oil Co. ...	"	400	Hamburg
Nov.				
1	Worthington & Boler ...	"	800	New York
1	Meade-King, Robinson & Co. ...	"	28,560	Philadel.
1	E. Harrison & Co. ...	"	8,000	"
1	Worthington & Boler ...	"	8,000	"
1	American Line ...	"	1,000	"
1	" " " " " " " "	M. Colza	6,000	"
1	W. B. Dick & Co. ...	Lub.	11,000	"
3	Vacuum Oil Co. ...	"	1,820	"
3	D. Owen & Son ...	"	2,870	"
3	Anglo-American Oil Co. ...	"	17,400	"
3	Huxley & Co. ...	"	2,700	"
3	Bennett's Haulage, etc., Co. ...	"	4,850	"
3	Crew, Levick & Co. ...	"	55,500	"
3	" " " " " " " "	M. Colza	8,390	"
3	Meade-King, Robinson & Co. ...	"	7,800	Baltimore
3	" " " " " " " "	Lub.	5,200	"
3	A. Hopps & Sons ...	"	9,160	"
3	" " " " " " " "	M. Colza	6,440	"
3	Pickford's ...	Lub.	2,600	"
3	Burnaby & Chantrell ...	"	2,540	"
3	" " " " " " " "	Lub. Gr.	5,160	"
3	" " " " " " " "	M. Colza	2,780	"
3	W. Crawford ...	Lub. Gr.	560	New York
3	Anglo-American Oil Co. ...	Lub.	28,400	"
3	D. Owen & Son ...	"	2,230	"
3	Vacuum Oil Co. ...	"	17,600	"
3	C. W. Field ...	"	430	Antwerp

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	No. OF GALS.	PORT WHENCE.
Oct. BOSTON—				
30	W. F. Beaumont ...	Lub.	250	Hamburg
BRISTOL—				
28	C. Hill & Sons ...	"	4,520	New York
28	" " " " " " " "	M. Colza	2,600	"
28	Ford & Canning ...	Lub.	3,440	"
28	H. Matthews & C. ...	"	160	Antwerp
30	J. Feltham ...	"	1,200	New York
31	W. G. Clarke ...	"	480	Antwerp
3/11	C. Hill & Sons ...	"	32,180	New York
3/11	Ford & Canning ...	"	13,690	"
3/11	Pickford's ...	"	230	Antwerp
CARDIFF—				
30	P. Bernasconi & Co. ...	Lub.	2,400	Bordeaux
GRIMSBY—				
24	J. Sutcliffe & Son ...	"	460	Hamburg
24	" " " " " " " "	"	130	Antwerp
27	" " " " " " " "	"	150	Hamburg
31	" " " " " " " "	"	560	Antwerp
HARWICH—				
28	Great Eastern Railway ...	"	380	"
HULL—				
28	T. Wilson, Sons & Co. ...	"	240	Christiania
28	" " " " " " " "	"	26,440	New York
30	" " " " " " " "	"	400	Bergen
30	Wilson's & N. E. Railway ...	Lub. Oil and Gr.	5,080	Hamburg
30	" " " " " " " "	Lub.	800	Antwerp
3/11	" " " " " " " "	"	1,320	Hamburg
3/11	" " " " " " " "	"	1,480	Antwerp
3/11	W. Brown, Atkinson & Co. ...	"	200	Copenhagen
MANCHESTER—				
28	D. Currie & Co. ...	"	540	Hamburg
29	Meade-King, Robinson & Co. ...	"	2,080	"
31	" " " " " " " "	"	350,000	"
Nov.				
1	D. Currie & Co. ...	Lub. Oil and Gr.	730	"
1	J. T. Fletcher & Co. ...	Lub.	240	Ghent
1	G. B. Taylor ...	"	1,200	New York
3	J. T. Fletcher & Co. ...	"	80	Antwerp
3	Diamond Lubricating Co. ...	Lub. Oil and Gr.	12,250	New York
3	Meade-King, Robinson & Co. ...	Lub.	4,000	"
3	Liverpool Storage Co. ...	"	39,650	"
3	" " " " " " " "	Lub. Gr.	590	"
3	W. W. Jones, Dooly & Co....	Lub.	6,350	"
Oct. NEWCASTLE—				
31	Tyne-Tees Steamship Co. ..	"	2,840	Hamburg
NEWPORT—				
3/11	M. Jones & Co. ...	"	500	Antwerp
SWANSEA—				
29	R. Turpin & Co. ...	"	4,400	New York
DUNDEE—				
30	D. Alexander & Sons ...	"	120	Hamburg
GLASGOW—				
28	Clyde Shipping Co. ...	"	2,910	Antwerp
29	MacLay & MacIntyre ...	"	5,980	N. Orleans
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28	Jas. Currie & Co. ...	"	5,440	Hamburg
29	Jas. Rankine & Sons ...	Lub. Gr.	150	Rotterdam
GRANTON—				
30	Asiatic Petroleum Co. ...	Benzine	434,000	"
LEITH—				
28	G. Gibson & Co. ...	Lub.	200	Antwerp
3/11	Jas. Currie & Co. ...	"	7,200	Hamburg
3/11	" " " " " " " "	"	600	"
BELFAST—				
28	J. C. Pinkerton & Co. ...	Lub. Oil and Gr.	110	"
30	G. Heyn & Sons ...	Lub.	1,570	Riga
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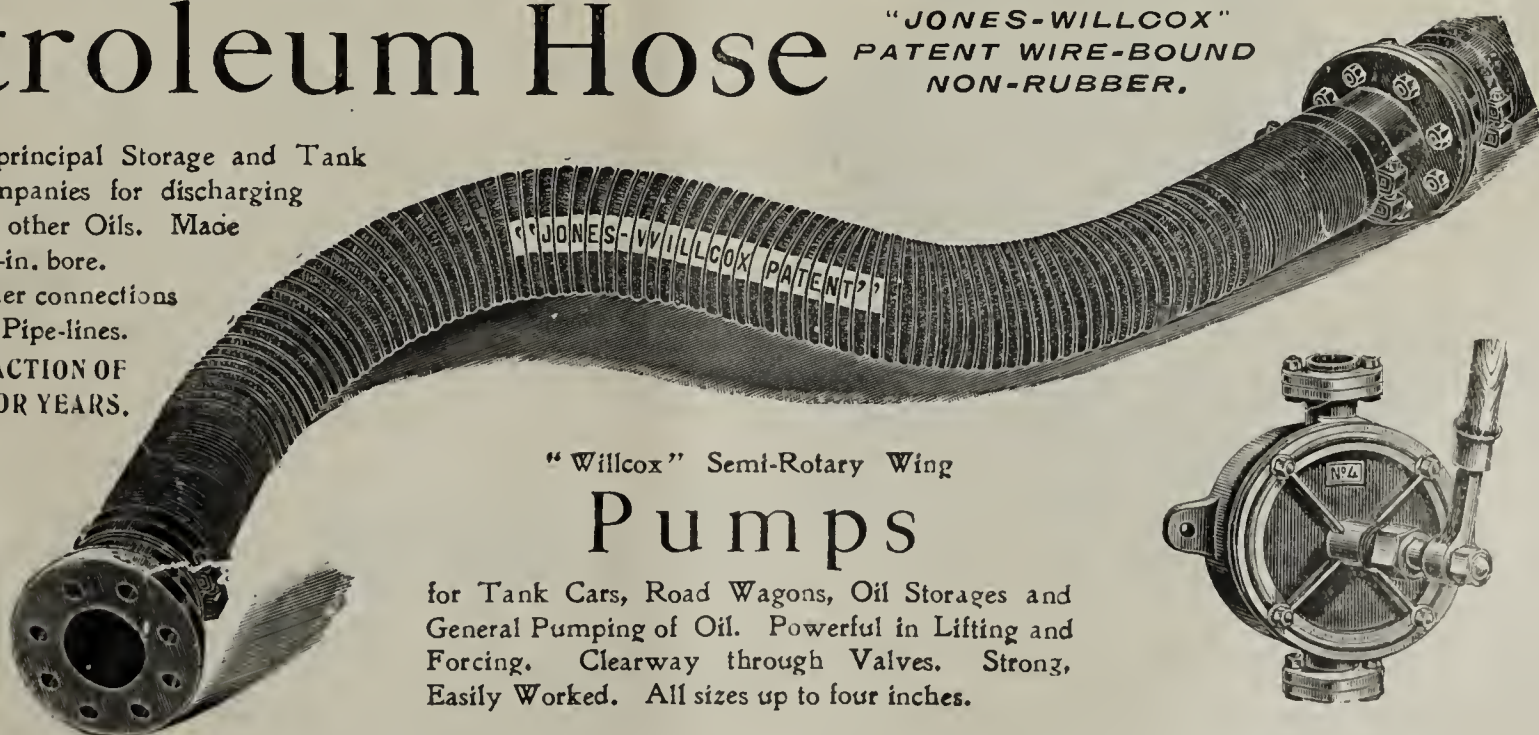
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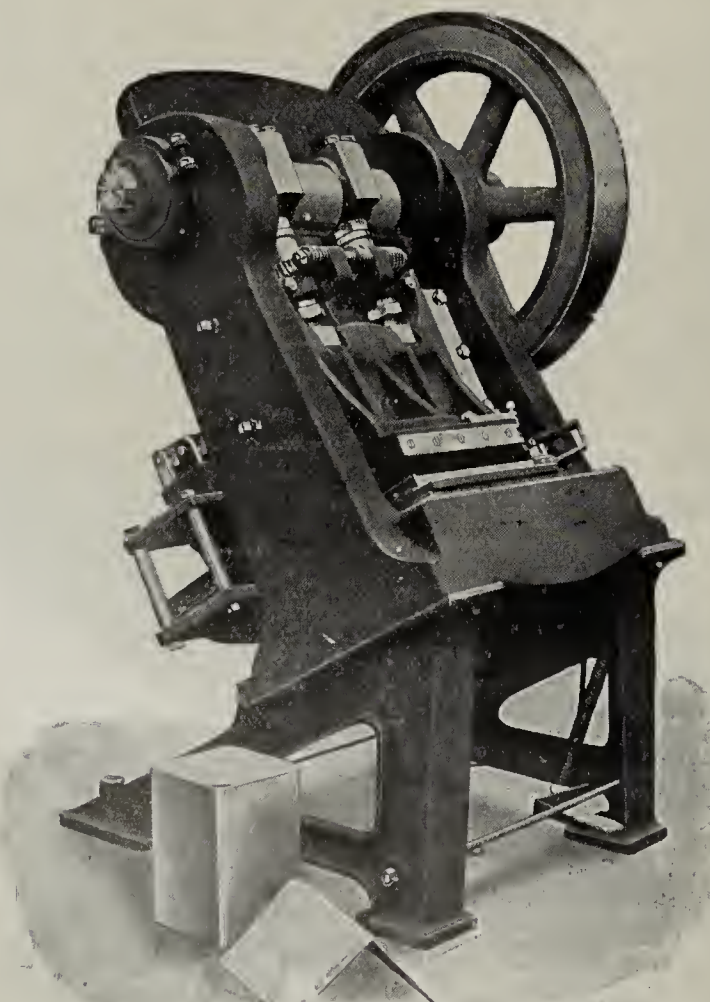
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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

America's Expanding Petroleum Export Trade.

THE foreign demand for American petroleum products is ever on the increase, and the total shipments abroad for September again show a high-water mark. In all, over 190,000,000 gallons of petroleum products were exported during the month, representing a value of over \$13,000,000, these figures being over 10,000,000 gallons and \$1,000,000 in excess of the oils exported during the corresponding month a year ago. There were heavy increases in the exports of motor spirits, lubricating oils, fuel oils, gas oil, etc., while, on the other hand, the shipments of crude oils and illuminants somewhat fell off. For the nine months of the present year America has shipped abroad no less than 1,504,000,000 gallons of petroleum products to a total value of over \$106,000,000, while for the corresponding nine months of last year the respective figures were only 1,377,000,000 gallons and \$91,000,000. Thus, while in quantity America has recently increased her exports of petroleum products over 9 per cent., the increase in value works out at over 17 per cent.

Foreign Investments in the American Fields.

THE article which we reproduce upon other pages of this issue on the interesting subject of foreign investments in the Mid-Continent fields of America, from the pen of Mr. H. J. James, the prominent oil authority, of Kansas, could not have been written at a more opportune moment. To-day the eyes of the European capitalistic world in oil are turned to the prolific American territories, which are worthy of exploitation by the oil enthusiast, and wherever one looks in the New Continent it will be found that the most favoured spot for speculation is the mid-continental fields. But foreign interest is by no means limited to this portion of the American continent. Go west, we find absorbing interest in California's vast oil territories, while south we know of the enterprise in oil that has found an outlet with Lord Cowdray's group. The shales of the

north are now attracting the attention of the foreign capitalist, and it is evident that in the not distant future other portions of the American continent will pass into the hands of interests other than American. So much for the attractiveness of petroleum propositions associated with the continent in which Drake started the momentous history of the oil industry.

The Other Side of the Question.

BUT there is another and very important aspect to the question of the interest now being turned to the American oilfields by foreign capitalists, and we are not surprised to find that more than one Transatlantic writer has emphasised this point in the Press. The fact is that with the steady increase of foreign capital in the exploitation of America's great oil wealth, the question not unnaturally arises as to whether these foreign investments have not thereabouts reached a point endangering the supremacy of the traders in American petroleum in their own country. The effect of the passing of the control of many of the world's greatest oilfields from domestic into foreign hands is a matter which will be awaited with considerable interest, and just as in other countries there has been an outcry against the inraids made by foreign capital, so in America the same question is now being prominently brought forward.

The Fields of Sakhalin Island.

WE have upon several occasions called attention in these columns to the potentialities of the petroleum deposits in the northern part of the island of Sakhalin, and in doing so have made a point of the fact that vast markets await the advent of Sakhalin oil in the Far East. As our readers are aware, an English expedition is now engaged in development work upon extensive properties in the Russian portion of Sakhalin, owned by the Sakhalin Oilfields, Ltd., and originally held by its parent concern, the Second Sakhalin Syndicate, Ltd. That prolific oil lands will ultimately be developed is a foregone conclusion—in fact, oil has already been obtained in quantity. That the Russian Government regard developments in Sakhalin with great favour in view of their anticipated success is seen from the fact that the Ministry of Ways and Communications has now decided to introduce the use of Sakhalin petroleum upon two of the great railway systems which traverse Eastern and South-eastern Siberia and Manchuria. Inasmuch as these great railways have hitherto been solely dependent upon wood for fuel purposes, the coming use of liquid fuel will be a distinct step towards progress, and at the same time do much in the way of directing additional attention to Sakhalin's admittedly prolific oil wealth.

THE INSTITUTION OF PETROLEUM TECHNOLOGISTS.

Sir Boverton Redwood, Bart., elected First President.

A MEETING of the guarantors of the Institution of Petroleum Technologists was held last Friday at the House of the Royal Society of Arts, Sir Boverton Redwood, Bart., presiding.

The chairman announced that the list of guarantors was a very representative one, embracing eminent technologists as well as those engaged in the commercial departments of the petroleum industry. He was pleased to state that Sir Frank Crisp, Bart., and Sir William Plender had agreed to act as honorary solicitor and honorary treasurer respectively of the Institution.

On the motion of Professor Lewes, Sir Boverton Redwood was unanimously elected the Institution's first president, Mr. A. C. Adams, managing director of the London and Thames Haven Oil Wharves, Ltd., seconding the motion.

It was also unanimously agreed that Lord Cowdray should become the Institution's vice-president, the chairman mentioning that Lord Cowdray had agreed to do everything in his power to further the interest of the Institution.

The chairman announced that Messrs. Leonard Dalton and Sydney H. North had agreed to act as joint secretaries, giving their services for the first year gratuitously.

It was decided to accept the offer of Mr. Eastlake to provide office accommodation for the Institution at 17, Gracechurch Street, E.C.

IMPROVEMENTS IN THE ROTARY DRILL.

An Explanation.

IN reference to the article which appeared on page 500 of the last issue of the REVIEW under the heading of "Improvements in the Parker Mogul Rotary Drill," we have received a letter from Messrs. the Perkins Macintosh Petroleum Tool and Boring Co., Ltd., of St. Albans, in which they suggest that we should draw attention to the fact that the reference then made to the Crown block and pulleys, now adopted by the makers of the Parker Rotary, is liable to misconception. Messrs. Perkins Macintosh point out that this Crown block and adjustable self-oiling pulleys (with the grooves of the pulleys machined to avoid undue wear on the wire line) has been with them a standard practice for a considerable time past, and is therefore only a new innovation so far as the Lucey Co. is concerned. Consequently that company is only now commencing to introduce a feature which has with other makers been the ordinary standard for a long time past.

CHAS. N. GOULD, Ph.D.,

Former State Geologist of Oklahoma. 20 Years' Experience.

Developed and Undeveloped Oil Properties in the
MID-CONTINENT OILFIELD
Examinations and Reports.

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PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended November 8th was 118,000 poods.

SPIES PETROLEUM COMPANY, LTD.—The production for week ended November 9th, including 210 poods from ambars, was 283,040 poods, or about 4,565 tons. The total production for the year, from January 14th to November 9th, was 11,254,575 poods, or about 181,525 tons. The total production for the corresponding period last year was 14,015,025 poods, or about 226,049 tons. Price of crude oil at Baku is now 43½ copees per pood.

MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended November 8th was 21,240 poods, or 343 tons.

EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended November 9th was 97,000 poods, or 1,564 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended November 8th was 128,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended November 8th was 28,167 poods (454 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended November 8th was 8,150 poods, or 131 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended November 9th was 10,845 poods, or 175 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended November 8th, 120,707 poods or 1,947 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest production for week ended November 11th was 343,900 poods, or 5,547 tons. Corresponding period last year, 1,368 tons. Total production to date for this year, 97,696 tons, last year 26,778 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended November 9th was 103,800 poods, or 1,674 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended November 1st was 124 tons.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended November 8th was 15,949 poods (257 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended November 8th was 1,250 poods (20 tons).

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FOREIGN CAPITAL IN THE MID-CONTINENT FIELDS.

LIST OF COMPANIES INTERESTED IN OKLAHOMA.

By Mr. H. G. JAMES.

The following article, which is reproduced from the latest issue of the "Oil City Semi-Weekly Derrick," will be perused with considerable interest by REVIEW readers, inasmuch as it deals in a comprehensive manner with the Mid-Continental fields of America, which are to-day regarded, and quite rightly so, with such favour by English company promoters.

It would be interesting to know just how much foreign capital is invested in the Mid-Continent oilfields, and by Mid-Continent we mean Kansas and Oklahoma, Texas being as absolutely separate and apart from those districts as to have no place under the designation. But there are many difficulties in arriving at a definite conclusion regarding the aggregate foreign investment. In the first place, there is little reliability to be placed in the public statement as to the prices paid for some properties. Again, there have been so many transfers and so much switching of purchased properties that there is liability of duplication. Mr. Paul Arbon, who has made a careful study of foreign interests, believes that there are about \$20,000,000 invested in Oklahoma oil securities by Dutch, English and French capitalists. The largest concern, he says, is the Union des Petroles, a French syndicate, incorporated for 40,000,000 francs, or \$8,000,000. This company is not generally known in this field, as the constituent properties are incorporated separately, it is understood. This company was registered in Paris in June, 1911, to amalgamate with certain oil-bearing properties in Oklahoma and Illinois, aggregating at that time 24,950 acres in Oklahoma and 1,970 acres in Illinois; at that time the Glenn pool holdings aggregated 2,996 acres, of which 720 were under operation, and with 100 producing wells there were 21,945 acres in the shallow sand district with 4,498 tested, upon which were 571 wells. In Illinois there were 192 producing wells. The production for seven months ending with December, 1911, was 1,049,015 barrels.

This single instance is suggestive of the large extent foreign capital is becoming interested in this field and the important part it is playing now in the development of the producing areas. Since the Union des Petroles was organised, its holdings have fluctuated very materially. In some instances it has turned back thousands of acres, and in others it has taken up thousands of acres of new leases. But whether Mr. Arbon's figures are correct or not the fact is pretty well established that the total investment in foreign-owned production runs well up toward \$20,000,000, especially if what has been spent in development since purchase was made, which probably came largely from earnings, is taken into consideration. The net profits of the Union des Petroles amount to 1,690,652 francs at the close of December, 1911, and since then it has been very active, owning now in this field 1,200 wells with a daily production of 4,000 barrels, and operating constantly not less than ten strings of tools. In the beginning of big purchases in the Glenn pool this activity was known generally as the J. E. Crosbie's Holland

purchase. It is more generally known now as the Royal Dutch. Its leaseholdings extend all the way from the Kansas State line to the Canadian river. Its actual investment in Oklahoma is said to be approximately \$5,000,000. It ships oil east to Ohio and Pennsylvania points, and is one of the four biggest operating companies in the Mid-Continent field, the Prairie coming first, the Gulf Pipe Line Company ranking second, the Texas Company being third, and the Union, with 4,000 barrels a day, occupying fourth place. There may be one or two operators in the Cushing pool with larger production than this of flush oil, but reference is only to well-settled production.

Then there is the Roxanna Petroleum Company, which purchased the John A. Bell properties in the Bartlesville district, consisting of several thousand acres of leases and a large production, for which \$1,000,000 were paid. In addition to this the Roxanna took over the excellent producing properties of the Paova Oil Company in the Cleveland field, paying \$700,000 therefor.

The Roxanna Petroleum Company is one of the big concerns now of the Mid-Continent region. Since it entered the field it has pursued an active drilling campaign, and owns several of the attractive producing properties in the Bartlesville and Cleveland districts. When it took over the Bell interests it acquired 180 wells and approximately 2,000 barrels production a day. It now has about 3,500 barrels output daily. It is stated its investment reaches \$2,000,000. The Roxanna Petroleum Company is said to belong to the Asiatic Petroleum group. There are five divisions of the Asiatic group, namely, the company operating in Egypt, the one in the Federated Malay States, the India Company, the Straits Settlements Company, and the Russian and Dutch Indies Companies. The company was organised in 1911 for the purpose of taking over the properties of the Anglo-Saxon Petroleum Company in these countries. Its headquarters are in London, and it is a large and successful corporation. The combined capitalisation is \$15,250,000. It has extensive offices in Tulsa, and has apparently entered the Mid-Continent field for the purpose of developing an extensive production.

Another foreign corporation operating in the Mid-Continent field is the Oklahoma Oil Company, Limited, incorporated for \$750,000, for the purpose of acquiring the Canadian Oil and Gas Company, which controlled 3,120 acres of leases and had 97 producing wells, chiefly in the Bartlesville and Tulsa districts. The revenue of the company in 1910 was \$45,330; in 1911, \$68,387; in 1912, \$144,666, with a net profit of \$53,351. A dividend of 2½ per cent. was paid October 1st, 1912,

and 2½ per cent. March 11th, 1913. This company is now drilling in the Keystone district, about 15 miles west of Tulsa. It has some good properties, and is under the efficient management of John Steele.

In the earlier days of the Oklahoma development some of the foreign purchases sounded like fairy tales. R. S. Litchfield, president of the First National Bank, who came out here from Franklinville, N. Y., where he was raised on a farm, and who has cleaned up a big fortune in oil, relates an interesting experience of those days. He and his associates were among the first to make a foreign sale of Glenn pool production. They owned the Gracie Berryhill allotment lease in 8-17-12, in the heart of the Glenn pool. "When we sold this lease," said Mr. Litchfield, "I actually saw 'my ship come in.'" When the first gusher wells were struck in that famous district, Litchfield, Sawyer, and others went ahead of developments and took up the Berryhill 80 acres. It seemed hopelessly in advance. Their first well was drilled in September, 1906, and it was a hummer. They put down 24 wells, the largest being good for 3,000 barrels, and the smallest 150 barrels. They developed a daily production of 10,000 barrels under the name of the Oklahoma State Oil Company, and sold to the Oklahoma Petroleum Company for \$284,000. The deal was engineered by Messrs. Goldman, Sachs & Co., of New York, through Messrs. Van Oss & Co., bankers of the Hague. The money was shipped from the Hague in gold coin, and Mr. Litchfield went down to New York and stood on the pier and watched "his ship come in," laden with precious metal. That was the greatest sight he had ever seen up to that time, and his eyes glisten even yet when he tells about it.

This case serves pretty well to illustrate the value of production. For a while it was whispered that the Oklahoma Petroleum Company had been handed a lemon. Litchfield and associates had received \$284,000 for the 80 acres, paying \$34,000 commission. Previous to the sale it had paid for itself, and there had been divided among the owners \$267,000 in dividends. The property later changed hands at \$400,000, and is now back in possession of the Oklahoma Petroleum Company, having earned all told over \$1,000,000, and is still a mighty valuable property.

The Oklahoma Petroleum Company group consists of the old Oklahoma State Oil Company, the Best Oil Company, the Tulsa Oil Company, the Kansas-Oklahoma Oil Company, the Reese Oil Company, for which \$1,500,000 was paid, principally through J. E. Crosbie in 1909. These are all supposed to have been about the same backers through the Union des Petroles.

The Premier Petroleum Company came into notice and activity in the Mid-Continent field in 1910, when the Gunsburg and Forman, Lovell and other shallow sand properties were purchased. The consideration was said to have been \$1,250,000.

Toward the close of 1911 the deal known as the Barnsdall and Robinson sale of 40,000 acres in Okmulgee county to a French syndicate for a claimed consideration of \$2,000,000, but which afterward was rumoured to have actually been only \$800,000, was consummated.

It is more than probable that some of these sales

were included in the investment of the Union des Petroles. It is difficult to guard against publication. While Mr. Arhon thinks upwards of \$20,000,000 of foreign capital has been invested in this field, and while it is possible that properties now owned by foreign corporations may have a value of close to that amount, it is quite evident that not over \$12,000,000 of foreign money has actually been sent over here for investment.

It is estimated that the daily production owned by foreign companies is 14,000 to 15,000 barrels. Assuming that the daily yield is 15,000 barrels net, this would mean at the present market an income of \$15,450 a day.

In this connection it is interesting to note the division of ownership of production in this field. It has been popularly supposed that the Prairie Oil and Gas Company, former subsidiary of the Standard Oil Company, was the largest producer in the field. Indeed, it has often been asserted that the Prairie controlled the output of the Mid-Continent. To those who have laboured under this impression it will no doubt be surprising to know that the Prairie is not even the largest single producer, let alone controlling the field. The Prairie stands second in the list, and if foreign investments go on increasing as they threaten to do, the Prairie before long will stand third in the ranking order. The fact is the Prairie's production at its flood was never more than 4,000 barrels a day above its present pumpings. But in this connection there should be no confusion between the Prairie's own production—that is, the yield of wells owned directly by it—and its pipeline runs. The pipeline runs of the Prairie Oil and Gas Company on Friday of last week aggregated 147,563 barrels, or more than all other purchasing agencies in the field combined, the total output of the field being about 198,000 barrels a day, and so conceded by a majority of the well-informed pipeline men. This, it is stated, is the largest daily run of fresh production ever recorded by a pipeline company, and it speaks volumes for the very efficient management of that company, and the remarkable development of its pipeline system in nine years. But returning to the production of different concerns, the ranking is approximately as follows:—

	Barrels.
Gulf Pipe Line Company (Gypsy)	22,000
Prairie Oil and Gas Company	16,000
Texas Company	12,000
Foreign companies	14,000
Individual producers and companies	144,000
Total	198,000

Commenting upon these figures, President O'Neil said that his company had never owned a dollar's worth of production in any dummy company; that it had been a matter of great pride to him to be able to stand before the President of the United States and say that every barrel of oil and every acre of ground ever owned by the Prairie Oil and Gas Company had been in its own name, and that his company had never violated the rulings of the Interior Department in this respect. This dissipates many erroneous notions concerning the Prairie.

(To be concluded.)

OUR CALIFORNIAN LETTER.

ANOTHER NEW RECORD REACHED IN PRODUCTION.

LOS ANGELES, October 28th.

(From the Special Correspondent of the REVIEW.)

THERE is no oilfield in the American continent which is to-day attracting the same universal attention as the fields of the Californian State. It is, however, in English concerns that most of the interest is attached, for the reason that the "Shell" Royal-Dutch Combine is showing remarkable activity in the acquisition of its properties in the State. It is no longer a secret, this advent of the "Shell" Combine. It is now known to every oil man in California that soon its position will be on a par with that of the Standard Oil Company, while many predict that within a few months it will have left the Standard far behind in its desire to secure not only a very large output of the crude product, but ample territory whereon to drill in time to come.

Almost each day brings news that its representative at the head of affairs on this side is negotiating another move, and the rumours of impending deals would run into dozens. The concerns it has already acquired will give it a production of nearly 35,000 barrels per day of very high-grade oil, but it is a certainty it does not yet intend to stop.

Whatever may now be said of the policy of allowing the State's best oil lands to pass, as they put it here, into the hands of continental interests—and many oil men are dead against it—the fact remains that to-day there is more attention being directed to Californian oil lands and their acquisition than there ever was. This is to be accounted for in part by the fact that the opening which was long denied Californian products has now been found. New fuel markets are constantly opening out, and in this respect the opening of the Panama Canal is bound to give a great impetus to the fuel movement. Only a few days ago there arrived in Los Angeles harbour the "Santa Clara," which is the first of three sister-ships for the Atlantic and Pacific Steamship Company. These great freight vessels are designed to run on liquid fuel, and the fact that they alone will consume no less than 50,000 barrels of oil per month is evidence in itself of the vast opportunities which are ever opening before the Californian petroleum industry.

Then again, the refined markets are gradually extending, and California can now look forward to being one of the greatest oil-refining countries in the

world in the not distant future. For these refined products, too, the demand is enormous, and so, however substantial are the increases registered in the crude oil production, these will rapidly be wiped out with the increased demand for the products.

The healthy feeling which is noted in regard to the consumption of petroleum also forms a chief characteristic of the production. For last month—September—the crude oil output from the State's fields reached another new record, the total yield was close upon 9,000,000 barrels, so the estimate for the present year

of over 100,000,000 barrels will at all events be reached, and may be substantially exceeded. The record for September was made in spite of the fact that a number of wells were shut down, there being over one hundred less producers than was the case during August, when the production was over a hundred thousand barrels less. The month's yield was obtained from approximately 6,000 wells. The output of the various fields for September, and the wells producing the same will be found in the accompanying table:—



Field.			Wells producing.	Production, barrels.
Valley—				
Sunset-Midway ...	...	...	1,132	3,768,672
Coalinga ...	...	...	912	1,589,672
Kern River ...	...	...	1,652	861,721
McKittrick ...	...	...	320	861,721
Lost Hills ...	...	...	86	307,192
Coast—				
Santa Maria ...	...	...	190	492,364
Lompoc ...	...	...	30	98,860
Summerland ...	...	...	122	5,000
Watsonville ...	...	...	5	2,290
South—				
Fullerton... ..	...	...	294	651,334
L. A.—Salt Lake ...	...	...	698	248,446
Whittier-Coyote... ..	...	...	144	266,108
Santa Paula ...	...	...	338	74,120
Newhall ...	...	...	76	10,240
Puente ...	...	...	54	2,360
Totals ...	...	...	6,053	8,932,392

The stocks of crude oil above ground at the close of last month amounted to approximately 47,500,000 barrels, or about half a million barrels more than at the end of August. This increase, however, cannot be anything but temporary, for though the production of crude oil is gaining in its bulk, consumption is also steadily increasing, and within a few months, there is every reason to believe that one and the other will run hand in hand.

AMERICAN PETROLEUM EXPORTS.

Statistics for September.

THE exports of American Petroleum products during September and their respective values are given in the following table :—

CRUDE OIL—	Gallons.	Values.
New York	6,159,779	\$493,843
Philadelphia	250	38
New Orleans... ..	50	2
Sabine	787,479	18,750
Arizona	918,500	34,210
Southern California	—	—
Washington	5,041,751	104,853
Michigan	808,157	27,340
Ohio	1,126,727	32,924
Dakota	100	3
Totals	14,842,993	\$711,975
Totals for September, 1912	16,434,125	656,723

ILLUMINATING—

New York	44,948,595	\$3,155,330
Philadelphia... ..	21,485,650	1,244,907
New Orleans... ..	15,538,292	723,486
Sabine	7,157,795	421,610
Arizona	64,870	14,065
San Francisco	10,089,360	459,826
Southern California	1,420	235
Washington	3,899	532
Buffalo	22,617	6,785
Dakota	262,299	12,821
Michigan	55,839	4,464
Ohio	1,598,931	79,647
Totals	101,232,855	\$6,124,133
Totals for September, 1912	106,328,645	6,660,083

LUBRICATING AND PARAFFIN—

Maryland	866,823	\$121,686
New York	11,753,789	1,616,217
Philadelphia... ..	3,750,316	427,412
Galveston	27,379	5,476
New Orleans	389,737	133,838
Sabine	17,091	3,418
Arizona	3,476	1,192
San Francisco	68,482	7,101
Southern California	311	134
Washington	51,606	9,510
Buffalo	420,590	44,469
Dakota	42,540	5,436
Michigan	154,984	17,097
Ohio	27,517	3,633
Totals	17,574,641	\$2,396,619
Totals for September, 1912	16,298,604	2,088,287

NAPHTHAS, GASOLINE, ETC.—

Maryland	2,339	\$385
New York	15,779,230	2,443,704
Philadelphia... ..	199,508	26,952
Galveston	5,551	833
New Orleans... ..	121,231	19,982
Sabine	48,000	8,000
Arizona	2,169	600
San Francisco	24,135	3,517
Southern California	1,273	163
Washington	222,472	36,262
Buffalo	1,166,161	133,394
Dakota	473,454	60,044
Michigan	86,938	12,043
Ohio	2,107,726	213,868
Totals	20,240,187	\$2,959,747
Totals for September, 1912	15,120,325	1,956,487

RESIDUUM, GAS OIL AND FUEL OIL, ETC.—

New York	4,534,636	\$143,424
Philadelphia... ..	2,208,600	104,927
Galveston	—	—
New Orleans... ..	1,371,720	48,010
Sabine	8,247,077	286,915
San Francisco	17,599,853	288,932
Southern California	87,953	2,769
Buffalo	186,779	6,951
Dakota	92,940	2,813
Michigan	334,071	14,137
Ohio	1,720,902	64,534
Totals	36,439,538	\$966,776
Totals for September, 1912	25,963,133	636,319

THE PETROLEUM IMPORT TRADE OF GERMANY.

Statistics for the Nine Months.

THE total imports of petroleum products into Germany during the nine months, as against the corresponding period of 1912, were as follows :—

	Nine months, 1913.	Nine months, 1912.
	Tons.	Tons.
Crude oil	818	2,111
Benzine, crude	134,584	150,725
„ heavy	62,522	47,236
Kerosene	508,586	525,652
Lubricating oil	178,249	169,200
Light mineral oil	6,376	7,676
Residuals	8,175	8,411

The following table shows the origin of kerosene imported :—

	Nine months, 1913.	Nine months, 1912.
	Tons.	Tons.
From.		
United States	380,004	410,334
Austria... ..	89,392	77,412
Roumania	25,384	18,311
Russia	13,663	19,467

The imports from United States and Russia have decreased, those from Roumania and Austria have increased. The origin of benzine imported is seen from the following table :—

	Nine months, 1913.	Nine months, 1912.
	Tons.	Tons.
United States	41,008	56,451
Russia	37,849	33,408
Roumania	36,885	40,583
Dutch Indies	12,891	12,727
Austria... ..	5,780	7,541



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American Petroleum Production during 1912.

An Exhaustive
and Important
Bulletin.

Dr. DAVID T. DAY'S OFFICIAL REPORT.

(Continued from page 505.)

LOUISIANA.

In Louisiana many large gushers were obtained in the Caddo field, but their yield was not sufficient to prevent a decline in production. A well drilled at Pine Prairie, south of Alexandria, gave 1,200 barrels of oil a day for a short time and led to much drilling, which has not yet resulted in further production. The oil is intermediate in character, between the light oils of the Caddo field and the asphaltic oils of the Gulf coast. Vinton continues to be of interest. Several large wells were brought in during the year.

In 1912 Louisiana produced 9,263,439 barrels of petroleum, a decrease of 1,456,981 barrels, or 13.59 per cent. from the preceding year, when the production was 10,720,420 barrels.

The following table shows the production of petroleum in Louisiana in 1912, by districts and months :—

Month.	Jennings... Barrels.	Welsh... Barrels.	Anse la Butte. Barrels.	Caddo. Barrels.	Vinton. Barrels.	Total. Barrels.
January ..	89,226	1,845	1,700	550,691	73,060	716,522
February ..	117,952	1,845	2,109	646,488	64,439	832,833
March ..	94,049	1,845	2,119	583,518	65,880	747,411
April ..	97,033	1,845	2,119	700,594	58,909	860,500
May ..	80,738	1,845	2,119	648,826	70,673	804,201
June ..	87,809	1,845	2,119	617,267	52,507	761,547
July ..	102,816	1,845	2,119	592,223	68,112	767,115
August ..	101,254	1,845	2,119	583,805	75,617	764,640
September ..	85,510	1,845	2,119	593,422	58,664	741,560
October ..	84,102	1,845	2,119	562,616	71,408	722,090
November ..	83,449	1,845	2,119	550,887	124,438	762,738
December ..	81,773	1,845	2,120	547,612	148,932	782,282
Total ..	1,105,711	22,140	25,000	7,177,949	932,639	9,263,439

CALIFORNIA OILFIELD.

The total output increased from 81,134,391 barrels in 1911 to 86,450,767 barrels in 1912, or 6.55 per cent. Consumption, however, increased 18.8 per cent. Stocks increased from 44,240,118 barrels at the end of 1911 to 47,552,392 barrels at the end of 1912, when con-

sumption had nearly equalled production. The average price received was 45.4 cents per barrel in 1912, against 47.7 cents in 1911. This slight decline is to be attributed not to the statistical condition so much as to the expiration of old contracts made at the rates formerly prevailing.

The features of particular interest during the year were the development of large wells at unusual depth in La Habra Valley field, the continued development of large gushers in the valley fields, and the decline in the old Santa Maria field. Some good producers in the Midway and other valley fields were injured by an influx of water. The Coalinga territory was extended by the development of good wells to the south, and its value was enhanced by the increased utilisation of natural gas, including the enterprise for piping natural gas from the valley fields to Los Angeles, and by the increased amount of gasoline obtained by compressing natural gas. Progress was also made, especially in the Midway field, in cracking crude oils to obtain greater yields of gasoline.

Among trade features of interest should be noted the purchase of 10,000,000 barrels of surplus crude oil from the independent agency of the Union Oil Company, and the withdrawal of the Standard Oil Company from the purchase of oils heavier than 18° Baumé.

During the course of the year two reserves of public lands were established to assure the Navy a supply of oil in case of need. These reserves are in the Elk Hills and the Buena Vista Hills, Kern county. The public lands within these areas have been withdrawn from all forms of entry during the last three years, and in 1912 a special reservation for naval purposes was made.

The following table shows the production and value of petroleum in California in 1911 and 1912, by districts and counties, in barrels :—

District and county.	Quantity.	1911.		1912.	
		Value.	Price per barrel.	Value.	Price per barrel.
Coastal and Southern :—					
Los Angeles county—					
Los Angeles city	397,424	\$268,574	\$0.676	\$211,896	\$0.615
Newhall					
Puente					
Salt Lake-Sherman					
Whittier					
Orange county—					
Fullerton	16,247,804	10,281,176	.633	15,863,404	.616
Ventura county—					
Santa Paula					
Santa Barbara county—					
Lompoc					
Santa Maria					
Summerland	63,238	45,458	.719	44,295	.677
San Luis Obispo county					
Santa Clara county	20,462	12,072	.590	11,977	.595
San Joaquin Valley :—					
Fresno county—					
Coalinga	18,483,751	9,100,371	.492	8,768,303	.411
Kern county—					
Lost Hills				1,367,359	.477
Kern River	13,225,713	4,922,735	.372	5,399,914	.422
McKittrick	5,149,226	1,798,279	.349	2,350,096	.399
Midway	21,196,475	9,830,922	.464	23,928,368	.405
Sunset	6,350,298	2,459,493	.387	6,509,093	.351
Total	45,921,712	19,011,429	.414	50,245,255	.406
Grand total	81,134,391	38,719,080	.477	86,450,767	.454

The following table shows the production of petroleum in California, by counties, from 1903 to 1912, inclusive, in barrels :

Year.	Fresno.	Kern.	Los Angeles.	Orange.	Santa Barbara.	Ventura.	San Mateo.	Santa Clara.	Total.
1903	2,138,058	18,077,900	2,087,627	1,413,782	306,066	348,295	5,137	5,607	24,382,472
1904	5,114,958	19,608,045	2,102,892	1,473,335	789,006	517,770	1,500	41,928	29,649,434
1905	10,967,015	14,487,967	3,469,433	1,429,688	2,684,837	337,970		50,563	33,427,473
1906	7,991,039	14,520,854	3,449,119	2,032,637	4,774,361	299,124		31,464	33,098,598
1907	8,871,723	15,652,156	3,477,235	2,604,982	8,708,077	357,094		77,108	39,748,375
1908	10,386,168	18,132,893	4,692,495	3,358,714	7,816,682	379,044		88,741	44,854,737
1909	14,795,459	23,831,768		16,774,195				70,179	55,471,601
1910	18,387,750	37,896,727		16,665,678				60,405	73,010,560
1911	18,483,751	45,921,712		16,708,466				20,462	81,134,391
1912	19,911,820	50,245,255		16,273,569				20,123	86,450,767

COLORADO OILFIELD.

Colorado has petroleum resources of considerable promise, which are as yet practically undeveloped. But the actual production came, as in previous years, from the Florence field in Fremont county and the Boulder field in Boulder county, with experimental results from other fields. Both the Florence and the Boulder fields are old, well along in what would be expected to be a period of decline. Paradoxically, however, the older Florence field showed an actual increase, while the Boulder field, which has never been a large element in the supply, dropped to 15,304 barrels, less than half of its output in 1911. The total output for the State in 1912, therefore, was 206,052 barrels, against 226,926 barrels in 1911. The average

prices remained constant in the two fields, but the sharp decline in production of the higher-priced Boulder oil lowered the average price for the State to 97·3 cents per barrel, making the total value \$199,661 in 1912, against \$228,104 in 1911.

In the following table will be found the production and value of petroleum in the Boulder and Florence fields in Colorado from 1903 to 1912, inclusive, in barrels :—

Year.	Boulder. Quantity. Value.	Florence. Quantity. Value.	Total. Quantity. Value.
1903	36,722 —	447,203 —	483,925 \$431,723
1904	18,167 \$20,034	483,596 \$558,001	501,763 578,035
1905	10,502 11,502	365,736 326,104	376,238 337,606
1906	48,952 53,847	278,630 208,828	327,582 262,675
1907	68,353 75,188	263,498 197,625	331,851 272,813
1908	84,174 124,794	295,479 221,609	379,653 346,403
1909	85,709 129,812	225,062 187,900	310,861 318,162
1910	42,186 63,420	193,482 174,332	239,794 243,402
1911	37,973 50,393	187,341 175,763	226,926 228,104
1912	15,304 19,130	190,498 180,281	206,052 199,661

(To be continued.)

THE ALASKAN PETROLEUM FIELDS.

SPECIAL interest attaches to a reference made by the officials of the United States Geological Survey to the coal and oil development in Alaska under present conditions.

The Alaska coal fields, the Survey officials say, continue to be undeveloped. The only coal being mined is some lignite coal taken out for local use at Cook Inlet, on Seward Peninsula, and at several other localities. The total production in 1912 did not exceed 100 to 200 tons.

One oil company continued operations in the Katalla petroleum field in 1912, as in 1911. One of the two producing wells is said to have been sunk to a depth of about 800 ft. The oil is procured by pumping and is refined in a small plant located near Katalla, and the

gasoline finds a ready sale in the coastal settlements in this part of Alaska. There are several other oil companies which control property in this field, but these seem to have done little in the way of development during 1912.

GREAT FIRE IN THE CALIFORNIAN FIELDS.

THE Midway field of California has been attacked by fire, and the latest information is that the fire is still raging. It appears that a gusher belonging to the K. T. and O. Company, which was estimated to be producing nearly 20,000 barrels of crude oil daily, caught fire, and in spite of efforts to prevent the spread of the flames, these overtook several neighbouring properties. So far, however, only meagre details are to hand.

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„ Servian ...	6,700	„ New Steamer	6,200	„ Luciline ...	5,200
„ Carpathian	6,700	„ „	6,200	„ Le Coq ...	4,700
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LATEST QUOTATIONS OF PETROLEUM SHARES.

ENGLISH COMPANIES.

This list is restricted to companies who have paid dividends or who are producers.

Company.	Share Capital.	Value of Shares.	Latest Prices.
	£		
Anglo-Maikop Corporation...	650,000	£1	$\frac{1}{2}-\frac{9}{16}$
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{13}{16}-\frac{15}{16}$
„ 5% Deb. Stock ...	600,000	£100	87-91
Assam Oil ...	310,000	£1	$\frac{1}{2}-\frac{2}{3}$
Baku Russian Petroleum Co.	750,000	10/-	5/9-6/3
Bibi-Eibat Oil Co. ...	250,000	10/-	7/6-8/6
European Oilfields ...	385,000	10/-	6/9-7/9
Lobitos Oilfields, Ltd.	400,000	£1	26/9-27/9
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{5}{8}-\frac{3}{4}$
Pacific Oilfields, Ltd.	250,000	£1	3/0-4/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	21/0-22/0
Russian Petroleum Co.		10/-	4/0-4/6
Schibaieff Petroleum, new Pref. (fully paid) s/s	690,000 s/s	—	$1\frac{1}{2}-1\frac{5}{8}$
„ „ new Ord.		(fully paid)	17/0-18, 0
Shell Transport and Trading	7,000,000	£1	$5\frac{1}{3}-5\frac{3}{4}$
„ „ „	3,000,000 Pref.	£10	$10\frac{1}{4}-10\frac{1}{2}$
Spies Petroleum Co. ...	750,000	10/-	24/6-25/6

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	713	715
Caspian Society (Issue 1910) ...	1,000	3,175	3,185
A. I. Mantascheff & Co. ...	250	770	775
Nobel Bros....	5,000	19,225	19,325
Nobel Bros. (Issue 1912) ...	250	988	992
Russian Naphtha Society ...	100	293	295
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	263	265
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	395	400

SCOTCH PRICES.

Supplied by Messrs. MACLEAN & HENDERSON, Stirling.

Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	37/9
6% Cum. Pref.	100,000	£10	£11 $\frac{1}{4}$
Burmah Oil, Ord. ...	1,100,000	£1	72/0
„ Pref. ...	250,000	£1	25/9
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	5/10 $\frac{1}{2}$
Mexican Eagle Oil, Ltd..			
Non. Cum. Pref. ...	\$8,500,000	\$10	41/3
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	37/3
„ Pref. (£1 paid) ...	100,000	£1	22/0
Premier Oil Ord. ...	2,300,000	£1	7/0
Pumpherstons Min. Oil Co., Ltd.			
Ord. (17/- paid) ...	110,500	17/-	5 $\frac{3}{4}$
6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	13/0
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	74/9
„ „ „ B ” Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).	
Dordtsche Petroleum Industrie My., Ord. ...	Aand	185
„ „ „ Pref. ...	„	189
Royal Dutch Petroleum Co. ...	„	625
Moeara Enim Petroleum Maatschappij ...	„	244
Perlak Petroleum Maatschappij ...	„	39
Sumatra Palembang Petroleum Maatschappij ...	„	231
Zuid Perlak Petroleum Maatschappij, Pref. ...	„	37
Tarakan Petroleum Maatschappij ...	„	127



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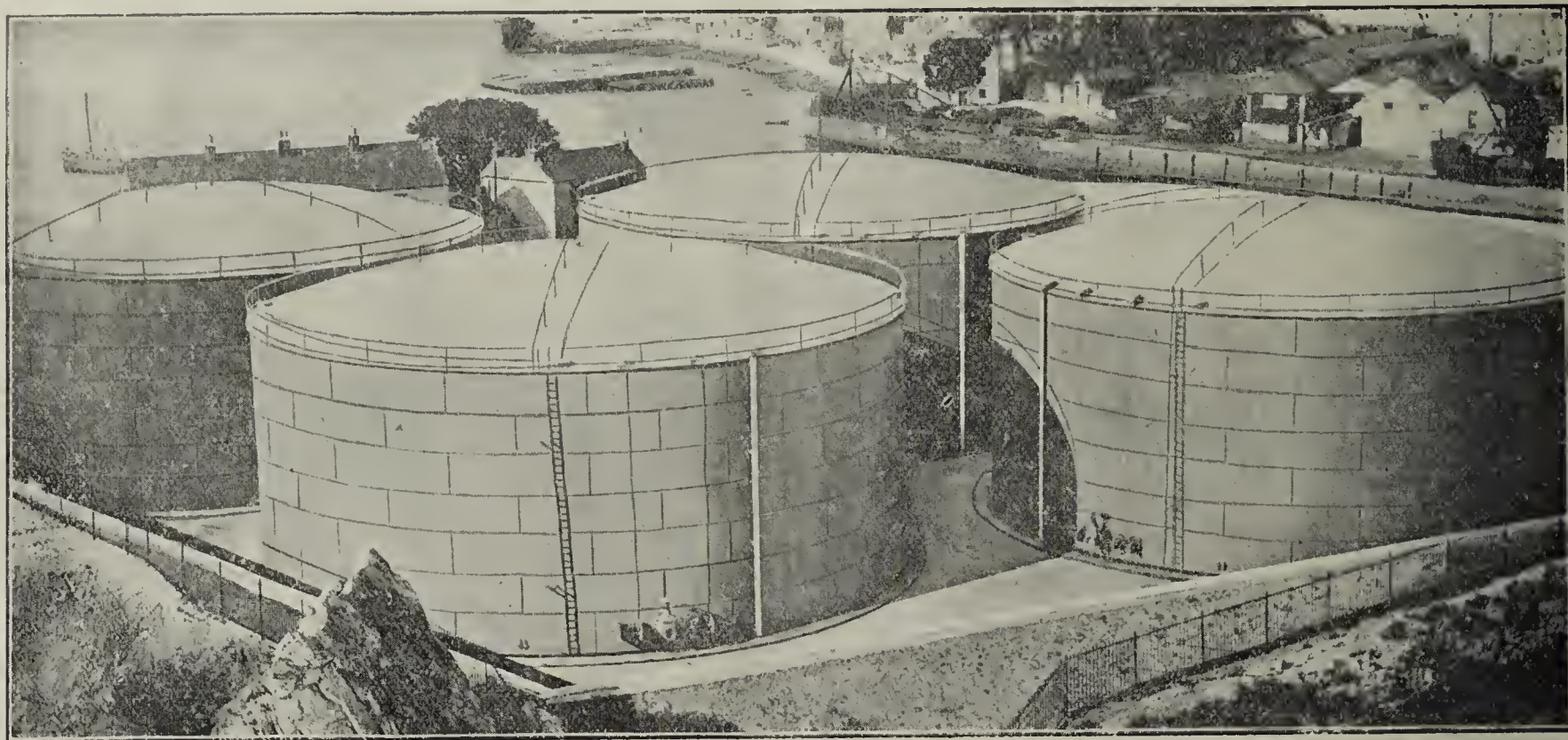
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CHIEF CONTENTS.

	PAGE
Editorial Notes	511
Production of English Companies in Russia	512
Foreign Capital in the Mid-Continent Fields	513
Our Californian Letter	515
American Petroleum Exports	516
American Petroleum Production during 1912	517
Latest Quotations of Petroleum Shares	520
The Results of Sound Management	523
Classified Imports into the United Kingdom	524
Notes from the Oilfields	525
Developments in the Oilfields	526
Roumanian Consolidated Oilfields, Ltd.	527
Miscellanea	530
New English Companies	531
The American Oil Market	532
Home and Foreign Market Intelligence	533
Imports of Petroleum Products	534
The REVIEW Shipping List	535

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American Office: 111, Broadway, New York.

SATURDAY, NOVEMBER 15TH, 1913.

THE RESULTS OF SOUND MANAGEMENT.

A CAREFUL student of the annals of company enterprise in the petroleum industry must frequently be impressed with the fact that in the exploitation of oil-bearing lands, or in the conduct of petroleum refineries, there is far less left to chance than in many other channels of commercial activity.

Companies there have been by the dozen who, having acquired highly promising assets, set out to turn the same to profitable account for the benefit of their shareholders, yet forgetful of the fact that the finest proposition in the world can soon be turned to failure owing to lack of proper management. We all know the inevitable fate which has befallen them sooner or later, and, without exception, the finale has been ignominious.

On the other hand, however, the records of the petroleum industry contain eloquent proof of the success which follows the adoption of a sound policy when this is administered by men of judgment, tact, and experience. To-day the opportunities for a profitable participation in the petroleum industry are such that with only a fairly attractive proposition success is certain, provided sound management is allowed to have its sway. The board of directors of any company must necessarily be gentlemen of careful judgment and possessing oilfield knowledge, but it is the man behind the scenes—the practical oilman on the properties—in whose hands are the scales which can either weigh out success or failure. To-day, more than ever before, we live in an age when practical experience tells its own tale, and woe betide the oil company who sets out to achieve satisfactory results without first having made doubly certain that the officers who are to direct its affairs are no boasting amateurs, but men who have passed their career in the school of practical experience. Had company promoters viewed matters in this light in days gone by the petroleum industry, from an investment point of view, would ever have retained its popularity, and failures would have been the very rare exceptions.

These thoughts occurred to us as we listened last week to Mr. Richard Barnett's eloquent address to the shareholders of the Roumanian Consolidated Oilfields, Ltd., whose operations for its first year have been so successful that a disposal profit of over £90,000 resulted. The same thoughts recurred to us last Tuesday when, at the meeting of the Standard Oil Refinery of Roumania, we heard of the success which that company had achieved also during its first year, success which not only allowed the distribution of a 10 per cent. dividend, but the placing of a considerable sum to reserve and the carrying forward of a satisfactory balance into the accounts for the current year.

Like the former-mentioned company, the Standard Oil Refinery of Roumania has indeed made a brave show during the short time the company has been in existence, and it is evident to those who know the perseverance and experience of those in command that in years to come the financial results of the company's activity will be even more pronounced. In our friend Dr. Semion Aisinmann the company has a managing director whose ability stands second to none in Roumania, and the fact that in the past twelve months he has been able to make the gratifying profit

for the company of over £30,000 plainly suggests how eminently satisfactory will be the position when the concern has become properly established. Without fear of contradiction we can assert that if there is one gentleman who is more competent to speak upon the petroleum industry of Roumania more than another it is Dr. Aisinmann, and if only companies operating in the world's oilfields generally would see the advantage of placing the control of their operations in the hands of gentlemen possessed of such sterling qualifications and such practical experience as Dr. Aisinmann, then the day when petroleum enterprises fail to make both ends meet would be for ever passed.

TWO INTERESTING MAIKOP REPORTS.

DURING the present week two interesting reports of Maikop companies have been issued to shareholders. The first is that of the Maikop Victory Oil Company, Ltd., whose third annual meeting will be held next Tuesday. The profits for the past year have amounted to £15,672, which sum is divided between preliminary expenses and depreciation, the balance carried forward to next year being £1,585. 18s. 10d. The production of crude oil on the company's plots during the year has amounted to 1,297,982 poods, as against 4,633,548 poods for the preceding year, for which period, it will be recollected, a dividend of 20 per cent. was paid. Since the close of the books for the past year, however, the production of crude oil has materially increased, and there is every prospect of this continuing in the future, especially in view of the near approach of several of the company's wells to the oil strata.

The other report is that of the directors of the London and Maikop Oil Corporation, which shows that the company has obtained a production of 20,943 poods of crude oil during the year. The directors are continuing their policy of conserving their resources as much as possible until the results of drilling work by other interests in the Maikop field are made known.

Roumanian Oil for Russia.—There is a rumour that the Trans-Caspian Railway has acquired from the Romana-Americana Company 2,500,000 poods of Roumanian crude oil at the price of 40 copecs, to be delivered at Batoum before December 1st next.

Grosny Petroleum Production During August.—The production of petroleum on the Grosny oilfields during August amounted to 3,390,000 poods, as against 6,133,613 poods obtained during July. Of spouted oil there was obtained 66,500 poods.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO NOVEMBER 10th, 1913.

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IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Nov. 3.	From Jan. 1.	Since Nov. 3.	From Jan. 1.	Since Nov. 3.	From Jan. 1.	Since Nov. 3.	From Jan. 1.	Since Nov. 3.	From Jan. 1.	Since Nov. 3.	From Jan. 1.	Since Nov. 3.	From Jan. 1.	Since Nov. 3.	From Jan. 1.
Belgium ..	—	250	17,020	639,473	—	—	—	—	—	55,050	—	120	—	4,910	17,020	710,803
Canada ..	—	—	2,780	9,870	7,800	61,850	—	—	—	—	—	—	—	—	10,580	71,670
Dutch Indies ..	—	—	—	—	—	—	—	—	1,225,000	37,518,450	—	299,497	—	—	1,225,000	37,817,947
Germany ..	—	208,220	32,740	3,233,440	—	600	—	159,710	—	51,640	—	400	—	4,610	32,740	3,658,620
Holland ..	—	—	290	9,810	—	—	—	—	557,000	7,339,340	—	—	—	590	557,290	7,349,740
Mexico ..	—	5,753,800	—	—	—	—	—	1,038,380	—	1,528,800	—	12,812,160	—	—	—	21,133,040
Roumania ..	—	16,509,357	—	—	—	—	—	1,150,000	927,400	3,909,230	—	9,027,540	—	—	927,400	30,596,127
Russia ..	—	9,844,561	1,230	11,408,080	—	393,390	—	—	—	11,889,350	—	—	—	—	1,230	33,535,380
U.S.A. ..	4,629,280	102,847,396	1,447,090	41,990,704	—	212,780	629,800	54,430,410	933,510	23,706,880	757,640	5,508,520	3,520	846,455	8,400,840	229,543,145
Other Countries	—	89	4,750	137,080	—	480	—	—	—	4,859,240	—	62,870	—	1,460	4,750	5,061,210
	4,629,280	135,163,663	1,505,900	57,428,497	7,800	669,100	629,800	56,778,400	3,642,910	90,857,980	757,640	27,711,107	3,520	858,025	11,176,850	369,477,652

NOTES FROM THE OILFIELDS.

AMERICAN.

To Drill on Submerged Lands.—The submerged lands at Goose Creek are now attracting the attention of drillers, several drilling options having been granted recently.

Natural Gas for Automobiles.—It is reported that experiments with natural gas compressed in tanks for fuel for automobiles is working very satisfactorily in West Virginia and other places.

Lighthouse Oil.—Under its contract with the American Government the Texas Company recently delivered an order of 4,000 ten-gallon cases of lighthouse oil to Castle Pinckney, off the coast of North Carolina.

Natural Gas Plants on the Increase.—Gasoline from casing-head gas is about to be manufactured on a large scale in the Bartlesville district. One of the most active concerns is the Golden Gasoline Company, which is now erecting a large plant, in connection with which two 50-unit Bessemer gas engines will be utilised.

The Edgerly Field.—This latest field in the Gulf Coastal region is now attracting considerable attention. The Gulf Refining Company has several producing wells in the locality, the best well having recently been brought in with 500 barrels daily, but this yield has been doubled. The Gulf Company is adding to its leases as much new ground as possible. The Producers Oil Company and the Victory Oil Company are also drilling in the territory.

Gulf Coast Shipments.—During September 2,103,697 barrels of crude and refined oils were shipped from the Gulf ports, being a decrease of 80,000 barrels from the August total. Of this quantity the Gulf Refining Company shipped 705,000 barrels, mostly of refined oils; the Standard Oil Company of Louisiana, 455,000 barrels of refined oils; the Magnolia Company, 405,000 barrels of refined and crude; the Texas Company, 321,000 barrels of refined; and the Sun Pipe Line Company, 215,000 barrels of crude.

RUSSIAN.

Sakhalin Petroleum.—The Ministry of Ways of Communication intends, as an experiment, to introduce the use of Sakhalin petroleum on the Ussuri and Amur railways.

"Grosny Petrole."—The extraordinary rise of the shares of this company is explained by some papers as due to the rumoured breaking out of a spouter, which during ten hours has given 500,000 poods of crude oil.

Petroleum Explorations in the Astrakhan Province.—The Astrakhan province has granted over 500 demands for petroleum explorations in the Kamish-Samara and Taleusk district in the Astrakhan province.

Samara Petroleum.—The existence of petroleum in the Samara province is now again a current topic among the circles interested in petroleum. Explorations are at present being made by several Baku producers.

Grosny Petroleum Company.—Under this name a company has been formed for the purpose of exploitation of petroliferous areas in the possession of A. L. Boboshko and K. A. Belik. The capital of the company is 3,000,000 roubles.

Nobel Bros.—A German financial paper reports that some influential groups holding Nobel's shares are pursuing a propaganda tending to increase the dividend of the shareholders who now get 6 per cent., and to reduce the 40 per cent. on profits obtained by the owners to 20 per cent.

Pitoeff & Co.—This company intends to increase its capital from 3,000,000 roubles to 18,000,000 roubles in order to extend its activity. Among other measures the company projects acquiring petroliferous areas on the Apsheron Peninsula, owned at present by the Khan Ovan-Tusbazh.

Ter-Akopaff Petroleum Company.—This company intends to increase its capital from 4,500,000 roubles to that of 9,000,000 roubles and replace the 250-roubles shares by 100-roubles shares, which will be introduced on the Paris and Brussels exchanges. The company intends to largely increase its boring operations.

Shikhovo Company.—The Shikhovo Company is to amalgamate with the Naftalan Company in order to reduce the exploitation expenses. The production of both companies is a very good one, and, notwithstanding the damage caused by the recent strike the Shikhovo Company will distribute a dividend equal to that of last year. Four new wells and re-instrumentation of five old ones will be completed at the beginning of next year.

ROUMANIAN.

Exportation.—The export of petroleum products is now very active.

Prices.—Prices still remain high for crude oil as well as for products; benzine and residuals have a much firmer tendency.

The Tosca-Romana.—The balance sheet of this company for the year ended April 30th, 1913, shows a net profit of 51,665 francs, on a capital of 500,000 francs.

The Steaua-Romana.—The production of this company during the past week averaged 1,153 tons a day, of which 544 tons were obtained at Campina, and 72 tons at Policiori.

General Situation.—The general situation is good, but the fire at Moreni has caused great losses to various companies having wells in this district. Work, however, will be resumed very shortly; meanwhile the refiners have sufficient stocks.

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DEVELOPMENTS IN THE OILFIELDS.

LATEST PROGRESS REPORTS OF ENGLISH COMPANIES.

Traian Roumanian Company, Ltd.—Production of crude oil week ended 8th inst., 327 tons.

Roumanian Consolidated Petroleum Company, Ltd.—Production week ended 8th inst., 1,234 tons.

Anglo-Roumanian Petroleum Company, Ltd.—Production week ended November 8th, 696 tons.

Stavropoleo Moreni (Roumanian) Oil Properties, Ltd.—Production, October, 209 tons.

Tampico Oil, Ltd.—Progress report by cable: "Borehole No. 8, depth 1,470 ft.; production from wells during past month, 3,150 barrels."

Oilfields of Mexico.—Well No. 19, 4,515 ft.; well No. 31, 1,131 ft.; well No. 33, move derrick; production last week, 2,800 barrels (400 tons).

Anglo-Maikop Corporation, Ltd.—Telegram from manager at Krimskaya: "Well No. 1, lowering 12-in. column; well No. 2, freeing 18-in. column; well No. 3, depth 442 ft.; well No. 4, installing rig."

Balkan Petroleum Syndicate, Ltd.—Position of well No. 1 at November 8th: Drilled 484 metres; cased 482 metres. Gas was encountered at 482 metres. Formation—sandstone and layers of clay.

Levanovskoe Petroleum Company, Ltd.—Production crude oil week ended 8th inst., 3,154 poods (51 tons): well No. 1, fountain Thursday, then corked 300 ft.; well No. 2, cleaning cork; well No. 3, depth 1,380 ft.; well No. 4, lowering 14-in. column.

Anglo-Egyptian Oilfields, Ltd.—Telegram received from Egypt on Monday last: "Hurgada well No. 1—Best well oil accumulates very slowly; necessary drill deeper; but, as prospects

very favourable, consider it advisable wait for further storage or transport available."

Spies Petroleum Company, Ltd.—The secretary, in issuing the weekly report of the company's crude oil output, draws attention to the fact that the reduced production is due to stoppages in several wells for repairs, including twenty-four hours in principal well on plot Baskakoff for repairs to baling drum.

Tampico-Panuco Oil Fields and Chijoles Oil.—Weekly cable: "Well No. 1, at Tamboyoché, depth 3,515 ft. Well No. 1, at Arena, have resumed drilling. Well No. 1, at Chijoles, production temporarily reduced. Well No. 2, flowing 400 barrels per day. Well No. 3, increasing: now being tested to ascertain actual daily average production. Production during present week upwards of 3,000 barrels. In storage, 9,400 barrels."

North Caucasian Oilfields, Ltd.—Progress report:—Production from January 1 (14) to October 22 (November 4), 5,713,260 poods; leakage and fuel, 707,280 poods; net production, 5,005,980 poods. Wells: The latest developments on the old plots show that about 135 acres may be considered as especially promising; development is now concentrated on these plots, and the position is as follows: Producing, fourteen wells; drilling, nineteen wells. The present production is almost entirely obtained from the above wells, which are absolutely free from water. The old plot 78, on which no further development has taken place, produces from seven wells about 10,000 poods of oil a week. On the Bielik and Tchermoeff estate two wells have been drilled to a depth of about 250 sagues (1,750 ft.). Oil and gas have been encountered in one of these wells, and water is now being shut off in both wells, after which the oil strata will be tested. The average price realised upon oil sold to date is 41½ copecs per pood. The extensive drilling programme for this and next year necessitates large capital expenditure. The "group" have already exercised such part of their options as was necessary to finance the capital expenditure for the current year. They have undertaken to exercise the remainder of their options to provide funds for the 1914 expenditure, agreeing that the shares to be taken up shall not participate in any dividends which may be declared in respect of the current year's working.

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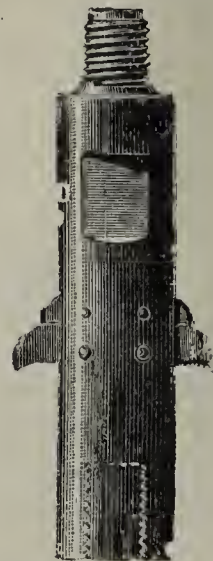
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ROUMANIAN CONSOLIDATED OILFIELDS, LTD.

SPLENDID RESULTS OF THE FIRST YEAR'S WORKING.

THE first ordinary general meeting of Roumanian Consolidated Oilfields, Ltd., was held yesterday (Friday) week, at River Plate House, Finsbury Circus, London, E.C., Mr. Richard Barnett (chairman of the company) presiding.

The Secretary (Mr. J. W. Creasser) having read the notice convening the meeting and the report of the auditors,

The Chairman moved the adoption of the report and accounts, and in doing so he said: The record of the company's first financial year is one of steady progress in all departments, of difficulties overcome and success achieved. Notwithstanding the delays incidental to the establishment of a company such as ours, which was formed to weld into one six undertakings, each with its separate organisation and management; notwithstanding the fact that many of the properties did not come under the direct control of the company for several months after its incorporation; notwithstanding fires and other unforeseen events, which have seriously retarded our production and development work, we have earned a gross profit of £110,577, equal to 10 per cent. on the whole issued capital of the company. It is interesting to find that oil wells and refineries have alike contributed to this result, and that both sides of the company's business have thus from the outset proved their profit-earning capacity. The profits, satisfactory as they are, would have been materially larger had it not been for certain forward contracts for the sale of crude oil and refined products which were entered into by the vendor companies. These contracts have prevented the company from reaping the full advantage of the high prices current during the past six months; but I am very pleased to be able to inform you that only a small proportion of the oil sold under them now remains to be delivered, and arrangements have been made under which the delivery of the balance will be made at the company's convenience, so as not to interfere with the requirements of its own refineries. While the company owns about 7,000 acres of petroliferous land in the richest oil-fields of Roumania, and has been carrying out a vigorous boring programme in six of these oilfields, one field, and one field only—that of Moreni-Bana—has contributed nearly two-thirds of the profits of the year, and one refinery—that at Targoviste—has earned the remaining third, for the Prahova refinery at Ploeshti has been taken over too recently to affect the year's figures in any material degree. I do not suggest that every oilfield will prove as rich as Moreni, but I do think that any unprejudiced observer, looking at the map of Roumania and realising, however dimly, the extent and diversity of the company's holdings, might ask himself if one field and one refinery have produced in our first year over £100,000 of profit, what are the potentialities of the future, when one field after another enters the producing list and contributes its quota to the common store?

As regards the disposal of the net profit the directors have adopted a conservative policy, which, I think, will commend itself to the approval of the shareholders. In the first place, they have written off £26,883 for depreciation. This is a generous allowance in view of the fact that the properties have been purchased from the vendor companies at prices which brought wells, buildings, refinery, storage, and pipelines into the new company's books at 20 per cent. under cost. How did we arrive at that £26,883? It was by striking a further 10 per cent. off these fixed assets, 10 per cent. off the capital expenditure of the year—although that capital expenditure included the purchase of some very valuable lands—and the balance off plant and machinery, so as to bring this item into accordance with the inventory as on June 30th, 1913. In the second place, the directors recommend the writing off of the whole of the preliminary expenses. This might have been spread over three or five years, but it is good finance to deal with the matter once for all now. We further recommend the transfer of £40,000 to the reserve fund, which will leave a balance of £17,746 to be carried forward. The net result is that, while the shareholders do not receive a dividend on the present occasion, the company's finances are being placed on a thoroughly sound basis,

which will, I believe, render practicable the payment of substantial dividends in the future. I have spoken at some length on the question of depreciation, and I might perhaps be asked if any steps will be taken to depreciate our oil lands, in view of the fact that oil-producing properties are undoubtedly a wasting asset. The answer is that the area of land actually under exploitation is so small in proportion to the extent of our oil lands, and the lands themselves stand at so moderate a figure in the company's books, that, if any adjustment of the book values be required, it is in the direction of appreciation rather than depreciation.

In the opinion of some of the most competent judges our oil lands are intrinsically worth four or five times the price at which they stand in the books. Mr. Edwin R. Blundstone (our geological adviser), whose absence to-day, which we all regret, is due to his being abroad on an important Government mission, has estimated in a report to the directors, dated June 18th, 1912, that the company's proved oil lands are worth £4,200,000, without taking into account the lands subsequently acquired from the Moreni (Roumanian) Oilfields, Ltd., or the extensive reserve lands of great geological promise. I think that, in view of that expression of opinion on the part of Mr. Blundstone, we shall not hear much about the necessity of depreciating our oil lands, which stand in our books at £850,000, and not at £4,200,000. As you are aware, the company is one of the largest owners of oil rights in Roumania. It has already exploitations at Moreni-Bana, Filipeshti de Padure, Chiciura, Campina, Tzintea, Bordeni, and Cornu, while operations will shortly be commenced in three other fields—Baicoi, Pacureti, and Malaesti. But the company cannot possibly, even with its present large resources and efficient staff, do justice to all the oil lands in its possession, which are ripe for immediate development, and it is in these circumstances that the Chiciura Oilfields of Roumania has been constituted as a subsidiary producing company to develop the company's properties in the Chiciura-Gropi-Toncesti-Mislișoara field. A map has been prepared, and I hope it will be possible to send out a copy of this map to every shareholder with the report of the proceedings at this meeting. The printers tell me that they hope to have it ready on Monday next. It will enable you to see how important are our interests in this Chiciura field, and, important as they are, small by comparison with our extensive interests elsewhere. The directors have not formed this subsidiary company without serious consideration, and this policy is to some extent an experimental one, though it follows the practice which has been adopted by several of the largest and most successful petroleum undertakings. The company retains the control of the new undertaking, both as regards the issued capital and the administration, and is entitled for a term of years to take all the oil produced at market price, less 2½ per cent. The board felt that, having regard to the great activity now being displayed by our neighbours at Chiciura, there should be more rapid development in that field than this company, with its hands full in so many other directions, could possibly undertake. The profits of the new undertaking will largely belong to the company, while the company, reserving for some years the right on fair terms to all the oil produced, will be able to keep its refineries in full work.

As regards Chiciura Oilfields of Roumania, Ltd., viz., the new undertaking itself, that company starts with every advantage and every prospect of success. It gives 150,000 of its shares to the parent company as the price of about 225 acres of the best lands in that new oilfield. It will have the advantage of all the experience, technical knowledge, and supervision which the parent company can place at its disposal. It will be independent of all marketing difficulties and cares, and it will be able to concentrate its attention, its efforts, and the expenditure of its working capital upon the work of production in an area of oil lands larger than that possessed in this field by any other undertaking. An estimate has been made by competent men in the employment of the company that, with the subscription

of £100,000 as working capital, the new company should be able, after recouping the company for its outlay up to date, to drill and complete about twenty wells—inclusive of the six now in course of boring—and then, as these are completed, to proceed to drill others, and that this should enable the Chiciura Oilfields of Roumania to count with confidence upon a production of at least 50,000 tons per annum. At present prices this would mean a profit of £100,000 a year upon an issued capital of £250,000, and upwards of one-half of the dividends will, by reason of its share interest, belong to the parent company, which will also, as I have already explained, retain the right to deal with the whole output of crude oil. Excellent news has been received this morning from Chiciura, for we have a cablegram to the effect that well No. 3 in the same strata and on the same line as the big wells of the Colombia and Orion companies, has come into production. Mr. H. T. O'Brien, who is in charge there, cables that the water is perfectly shut off, that the oil has risen to a height of 330 metres (1,082 ft.) in the column, and that he expects to strike within a few metres the rich fountain source which has already made the Chiciura Oilfield famous.

And now to leave Chiciura and to come to Moreni, the field from which we have drawn practically the whole of our production during the past year. We have three wells there which are now down to a depth of 500 or 600 metres. One of them (No. 5) is going down exceedingly well, and I hope before next year we shall have a big production from that point. Your directors, when they were visiting the field last month, were immensely pleased with the progress that they saw in every direction. At Moreni, under the care of our managing director, Mr. Alfred Rutherford, everything has been systematised in a most business-like way. There is not a screw or a nut or a bit of casing that comes into the camp that is not entered up in the stores and has to be accounted for. It is carefully docketed, and the man in charge of the stores has not only his room at the entrance to the store, but he has to live there. There has also been adopted an excellent check on the labour. The system is so efficient that if a man arrives ten minutes late in the morning he is stopped half a day's pay, as is done, I understand, in the factories of this country. The whole place is in thorough order, and there is evidence in every direction of careful organisation and attention to detail. There is one thing which we comment upon in the report, which I cannot help alluding to again, although it is comparatively a small matter. When I was at Moreni on my previous visit a year ago we were starting to build a machine shop there. What interested us was that its bricklayers' labourers were all young women, who were carrying the bricks in wheelbarrows to the men who were building the walls. It seemed to me a very leisurely business, and one would not have thought that the building would have been erected and fitted up for a considerable time. Nevertheless, when your directors were out there about a month ago we found that the machine shop was working and in the highest state of efficiency. It was doing the whole of the repairing work for our own wells and practically the whole of the repairing work for everybody else in the neighbourhood. I am told that the work we are getting from outside will pay handsome interest on the money we have invested in that machine shop, and that our own repairs will be practically done for nothing. That is evidence of the good management and attention to detail. Two or three of the young Englishmen we have out there as engineers have shown extraordinary skill and industry in building this machine shop. A steam hammer has been erected, which is worked very successfully by a compressed-air plant. We have also a powerful oxygen-acetylene plant. That has all been organised and carried out in the course of the past few months, and is now working for anyone to see. I am reminded by the managing director that it is all being run by petroleum gas from our own wells, which does not cost us a penny. I am glad to tell you that the recent fire at Moreni has not affected our property in any way. In the past we have perhaps had more than our fair share of these mishaps, which greatly retarded production and development work, even though the monetary loss is covered, as it has been in every instance, by insurance. In one case—the Moreni fire of March last—we had to deplore the loss of four lives, including that of a young engineer of brilliant promise. Mr. Sydney Masterson, a younger brother of our chief engineer, had endeared himself to everyone, alike by charm of manner and by devotion to duty. He lost his life in endeavouring to preserve the property of this

company and the lives of its workmen, and the directors have asked to be allowed to raise a monument to his memory at Ploeshti. I am sure that you will join us in renewing to his brother, Mr. Thomas Masterson, and the other members of his family, the expression of our heartfelt sympathy. Every possible precaution has been taken to minimise the risk of further fires at Moreni-Bana by erecting skeleton derricks, instead of the closed type, which forms too convenient a receptacle for petroleum gas, and by removing the electric motors to a considerable distance from the wells which they bale.

It is perhaps no part of the duty of a company chairman to comment on political affairs; but I cannot refrain from congratulating Roumania on the success which has crowned the sagacity of her statesmen and the courage of her people. Roumanian valour did much, thirty-six years ago, to free the Near East from the Turkish yoke, and King Carol, who, as Crown Prince of Roumania, received Osman Pasha's sword at Plevna in 1877, has known how to impose his will upon the Balkans in 1913, and to bring to an end a sanguinary and desolating war. Roumania emerges from the conflict with a new scientific frontier, with a considerable accession of territory, and with a relative increase of population, which assures her the hegemony of the Balkans. As the principal British company interested in Roumania we rejoice in her success, and any temporary loss that we may have incurred through lack of transport facilities or delay in drilling operations is as dust in the balance when compared with the national gain.

I ought here to express our sincere thanks to our managing director (Mr. Alfred Rutherford), to our chief engineer (Mr. Thomas Masterson), and to the staff generally for the excellent service rendered during the war in maintaining our production at a satisfactory level in face of unprecedented difficulties. In the period immediately preceding the mobilisation our output had jumped from 4,301 tons in May to 8,937 tons in June, and while, in the very nature of things, it was impossible for the time being to keep the production at the high-water mark attained in the latter month, it is gratifying to be able to record that for the first four months of our second financial year we have produced 26,017 tons of crude oil, an increase of over 20 per cent. on the average of the previous year. I venture to think that you, sitting here in London, hardly realise what all this means. It means that 850 out of 1,000 workmen were taken away to the war, and we had to replace them temporarily with grey-beards and young boys. That the production was kept up to practically two-thirds of the highest level that we had attained with our trained men is, I think, very satisfactory. It is only during the last month or so that we have felt the full effects of the temporary stoppage, because the drilling operations, which were going on regularly until the mobilisation, had necessarily to go slower for want of labour, and wells that would have been coming in a month or two months ago will perhaps not come in until a month or two months hence. It is therefore extremely creditable to our staff to have achieved these results, and they deserve all praise for having obtained them.

I want, in passing, to say a word of thanks to Mr. C. R. Mircea (our local technical adviser), who is always willing to assist in any way, and whose advice is always very good. He is a Roumanian gentleman of position and standing and a professor at the University of Bucarest. It is impossible for me, within the limits of one, or even within the limits of several, speeches, to deal with all the merits of Roumanian Consolidated Oilfields, Ltd. I have endeavoured, ladies and gentlemen, to the best of my ability to cover the ground; but there are many other points upon which I should like to have touched. One thing which I think I ought to mention is the great success of our refinery at Targoviste. It is connected with the Moreni-Bana field by our pipeline, and has been working exclusively on Moreni-Bana oil. The result is that we are able to claim with every confidence that we produce at the Targoviste refinery a higher proportion of benzine than is produced anywhere else in the world on a commercial scale. This is due, of course, primarily to the high benzine contents of the Moreni-Bana oil. From this oil we produce in the laboratory 51 per cent. of benzine. Benzine, as we know, evaporates very quickly, and the actual refinery result is an extraction of about 47½ per cent. to 48 per cent. of benzine from the crude oil. As far, however, as I am aware, there is no other refinery in the world which obtains an average extraction of 48 per cent. of benzine from the whole of its crude oil treated.

A cablegram came in an hour before this meeting. It is only an ordinary cablegram which has come in the usual course of business, but I will read it, as it illustrates what I have been saying. It is as follows: "We have sold 250 cars (2,500 tons) of benzine as per telegram." The telegram was from the board, authorising the transaction. The sale means £25,000. "Shall we arrange for payment in London? Have no need for this sum here. The American benzine contract will be finished in ten days." That is an illustration of the work we are doing at Targoviste refinery, and all that benzine will be delivered before the end of the present year, apart from the contracts under which we are delivering to other people. In conclusion, I may point out that the financial position of our company is a very strong one. We have no debentures, loans, or preference shares. Cash and liquid assets figure in the balance sheet (after deducting creditors) at about £145,000. Of our authorised capital nearly £600,000 is available for future issue if required, and the subscription of one-third of this amount is guaranteed. I preferred to address you in general terms, without preaching a sermon on every item in the accounts. I shall, however, be only too willing to answer any questions which any shareholder may desire to ask, either on the general position of the company or upon the figures of the balance sheet. I will content myself now by moving: "That the report of the directors, together with the statement of accounts up to June 30th, 1913, now submitted, be received and adopted"; and I will ask my colleague, Mr. W. W. Rutherford, M.P. (the deputy-chairman), to second the motion.

Mr. W. W. Rutherford, M.P., seconded the motion, which was carried unanimously.

The Chairman next proposed: "That of the balance of £64,381. 10s. 1d. standing to the credit of the profit and loss account, the sum of £6,635. 9s. 1d. be applied to writing off preliminary expenses; that the sum of £40,000 be carried to the reserve fund, and that the balance of £17,746 be carried forward."

Mr. Henry A. Blake, G.C.M.G., seconded, and the resolution was carried unanimously.

The retiring directors (Mr. W. W. Rutherford, M.P., and

Mr. W. H. Plewman) and the auditors (Messrs. Harwood-Banner & Son) were re-elected.

Mr. Mure Ritchie: Before we separate I think the least we can do is to pass a unanimous and very cordial vote of thanks to the chairman for the exhaustive, able, and lucid statement which he has given to the shareholders, and with which, I think, everyone is perfectly satisfied.

Mr. Gantier de St. Croix: I should like to second that. Among us here no doubt there are some shareholders who were shareholders in the old Roumanian Oilfields, Ltd. It will be in your memory, at the time of the amalgamation, that the value of our shares before this company took us over was only about 6s. To-day the market value of these shares stands at some 21s., and, judging from the remarks of our chairman, it seems to me that in a very short time the price will be higher. The progress has been remarkable, and is a source of great satisfaction to the old shareholders. I feel satisfied that this has been achieved by the devotion of the chairman and directors, and especially by that of our managing director (Mr. Alfred Rutherford) and the staff in Roumania. Therefore, I think that it is our duty to pass this resolution with acclamation.

The resolution was carried with acclamation.

The Chairman having replied, the meeting terminated.

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MISCELLANEA.

LAUNCH OF S.S. "EL SINORE."

ON Wednesday last the s.s. "Elsinore" was successfully launched from the Wallsend shipyard of Messrs. Swan, Hunter & Wigham Richardson, Ltd., the naming ceremony being gracefully performed by Miss Aline Bowring. The ship is to carry petroleum oil in bulk, and is being built for the Bear Creek Oil and Shipping Company, of Liverpool, of which Messrs. C. T. Bowring & Co. are the managers. The "Elsinore" is the thirteenth ship that the same builders have constructed for these owners and is a sister ship to the "Rosalind," which was delivered last April. The ship is built on the Isherwood system of longitudinal framing and to Lloyd's 100 A1 classification. Her leading dimensions are: length, 432 ft. overall, breadth, 52½ ft., and her deadweight carrying capacity will be about 9,700 tons. The triple-expansion engines and the boilers are being built by the Wallsend Slipway and Engineering Company. Steam will be raised either by burning coal or else oil injected into the furnaces by means of the Wallsend-Howden patent apparatus. The range of the oil-carrying compartments is isolated at each end by a cofferdam extending from side to side of the vessel and from the keel to the upper deck. The "Elsinore" has been built under the supervision of Messrs. Jacobs & Barringer, of London, the owners' consulting naval architects and engineers. In addition to Miss Aline Bowring, the owners were represented at the launch by Mr. Fred. C. Bowring, Mr. and Mrs. Clive Bowring, Mr. Barringer, and his assistant, Mr. Walter Bradney.

AMERICA'S INCREASING EXPORT TRADE.

THE following official figures show the steady expansion which is taking place in regard to the foreign demand for American petroleum products. The figures are given in gallons:—

September.					
1913	...	...	...	190,330,214	\$13,159,250
1912	...	...	...	179,144,832	11,997,899
Nine months ending September.					
1913	...	...	...	1,504,779,483	106,706,494
1912	...	...	...	1,377,144,587	91,178,859
Gain, per cent.	...	...	...	9.27	17.03

THE RECENT ROUMANIAN OILFIELD FIRE.

Additional Details.

THE latest accounts from Roumania concerning last week's fire in the Moreni district confirm the first reports of the great damage which the conflagration has caused to several companies operating in the Moreni district.

It appears that the fire started at dusk on Sunday evening, and in spite of all attempts to overcome it, it lasted until the following morning. During the fire no less than eighteen wells were destroyed, these belonging to the Romana-Americana (ten), the Astra-

Romana (six), and two owned by the Colombia Company. As a result of the fire the Moreni output of crude oil is reduced by nearly 1,400 tons per day, for three of the best producing wells in the valley have been put out of action. These are the Romana-Americana Company's well No. 8, which regularly produced over 800 tons per day; well No. 1 of the Colombia, which was yielding from 400 to 450 tons daily; and well No. 10 of the Astra-Romana, which was producing 100 tons daily.

ROUMANIAN PETROLEUM PRODUCTION DURING SEPTEMBER.

THE total production of petroleum on the Roumanian oilfields during September amounted to 153,407 tons, as against 153,530 tons in August, thus being equal to the latter. The production on the various fields was as under:—

					Tons.
Moreni	...	...	...	...	82,980
Campina	...	...	...	...	17,535
Bushtenari	...	...	...	...	12,252
Chiciura	...	...	...	...	2,584
Bordeni	...	...	...	...	5,430
Runcu ...	...	...	...	...	485
Tzintea	...	...	...	...	8,856
Baicoi ...	...	...	...	...	1,720
Filipeshti	...	...	...	...	2,786
Other fields	...	...	...	...	383
Total for Prahova district					135,011
,, Dambovitza district					3,454
,, Buzeu					11,306
,, Bacau					3,636
Grand total					153,011

STANDARD OIL OF CANADA, LTD.

Voluntary Liquidation and Reconstruction decided upon.

THE Directors of the Standard Oil Company of Canada, Limited, have issued the following circular:—

"In consequence of the judgment given in the recent action brought by a shareholder against the company, the directors, in order to protect the assets of the company, have no alternative but to call the shareholders together with a view to the company entering into voluntary liquidation. The directors have come to the above decision with much regret, as, owing to recent developments in the production and sale of natural gas, there was every prospect of the company being shortly placed on a profit-earning basis, the estimated profit amounting approximately to £12,000 per annum from this source."

The board propose to submit a reconstruction scheme at the earliest moment.

An extraordinary general meeting will be held on November 20th, to consider the necessary resolution for winding-up the company.

NEW ENGLISH COMPANIES.**THE GENERAL PETROLEUM COMPANY, LTD.**

REGISTERED on November 7th, by Linklater & Co., 2, Bond Court, Walbrook, E.C. Capital, £100, in £1 shares. Object: to carry on the business indicated by the title. Minimum cash subscription, seven shares. Signatories: F. Hurley, W. J. Simpson, L. H. Butcher, A. P. Hollinshead, A. W. G. Webber, F. J. Seal and John Coneybeare. First directors are not yet appointed. Registered office, 3, Princes Street, London.

EAST CAUCASIAN OILFIELDS, LTD.

Registered on November 5th, by Mayo, Elder & Co., 10, Drapers' Gardens, E.C. Capital, £100, in 10s. shares. Object: to carry on the business indicated by the title. Minimum cash subscription, seven shares. Signatories: Charles T. Browning, 87, Riversdale Road, Highbury Park, N.; F. Robinson, 66, Compton Road, Winchmore Hill, N.; Edward D. Cozens, 2, Forest Villas, Walpole Road, South Woodford; J. R. Beckensall, 55, Myddelton Square, E.C.; Charles T. Tivort, 87, Holmdene Avenue, Herne Hill, S.E.; William B. Clarke, 13, Dashwood Road, Gravesend, Kent; and P. Kenny, 133, Rusthall Avenue, Bedford Park, W. First directors (who are to number not less than two nor more than seven) are to be appointed by signatories. Qualification, £250. Remuneration, £200 each per annum (chairman, £300.)

MID-CAUCASIAN OILFIELDS, LTD.

Registered on November 5th, by Mayo, Elder & Co., 10, Drapers' Gardens, E.C. Capital, £100, in £1 shares. Object: to carry on the business indicated by the title. Minimum cash subscription, seven shares. Signatories: Charles T. Browning, 87, Riversdale Road, Highbury Park, N.; F. Robinson, 66, Compton Road, Winchmore Hill, N.; Edward L. Cozens, 2, Forest Villas, Walpole Road, South Woodford; J. R. Beckensall, 55, Myddelton Square, E.C.; Charles T. Tivort, 87, Holmdene Avenue, Herne Hill, S.E.; William B. Clarke, 13, Dashwood Road, Gravesend, Kent; and P. Kenny, 133, Rusthall Avenue, Bedford Park, W. First directors (who are to number not less than two nor more

than seven) are to be appointed by signatories. Qualification, £250. Remuneration, £200 each per annum (chairman, £300).

WEST CAUCASIAN OILFIELDS, LTD.

Registered on November 4th, by Mayo, Elder & Co., 10, Draper's Gardens, E.C. Capital, £100 in £1 shares. Objects: to carry on the business indicated by the title. Minimum cash subscription, seven shares. Signatories: Charles T. Browning, 87, Riversdale Road, Highbury Park, N.; F. Robinson, 66, Compton Road, Winchmore Hill, N.; Charles T. Tivort, 87, Holmdene Avenue, Herne Hill, S.E.; F. A. Saxon, 58, Percy Road, North Finchley, N.; Edward L. Cozens, 2, Forest Villas, Walpole Road, South Woodford; William Clarke, 13, Dashwood Road, Gravesend, Kent; and Charles F. Riley, 168, Sheringham Avenue, Manor Park, E. First directors (who are to number not less than two nor more than seven) are to be appointed by signatories. Qualification, £250. Remuneration, £200 each per annum (chairman, £300).

THE COMING INTERNATIONAL OIL EXHIBITION.

CONSIDERABLE progress is reported by the Executive of the great Oil Exhibition which is to be held at Earl's Court in March next. Although several months distant, much preliminary work has already been accomplished, and commissioners have carried out important negotiations in far-off lands.

Gratifying reports have been received from the chief oil-producing countries, the United States having responded with special alacrity, and are preparing to give most interesting demonstrations of the various phases of the industry.

Arrangements are being made for receiving delegates from all great overseas dominions where oil is found.

For the first time in London the public will have an opportunity of seeing practical oilfield equipment at work, and actual boring operations in progress, in the grounds of Earl's Court, where the various types of drills will pierce London's subsoils; and who knows what interesting discoveries may be made?

A feature likely to appeal to the general public, and interest them in the development of the industry, is the realistic cinematograph displays showing the actual operation of a busy oilfield. There will also be shown some exciting films of oil-well fires, and scenes in connection with the transport of oil by land and sea will be vividly depicted.

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The American Oil Market.

Saturday, November 1st, 1913.

THE crude market has continued on a stationary basis throughout, and the only development to invest the crude situation with interest has been details of exports for September.

The feature of the week's review of the Eastern field, says the *Oil Paint and Drug Reporter*, has been the marked gain in completions, but despite this showing the new production for the week suffered a setback. The current summary shows 293 completions, 4,455 barrels of new daily production and 91 gas wells or dry holes, as compared with 245 completions, 5,615 barrels of new production and 73 dry holes for the former week. All of the fields registered a large number of new wells during the week in review with the exception of Pennsylvania and North-western Ohio. The greatest gains were in West Virginia, South-eastern Ohio and Illinois. The only field reporting an increase in new production was West Virginia. The most material loss was in South-eastern Ohio. Development work in all sections of West Virginia is very active, but no significant results have marked the week's operations.

Little change has featured the new operation in the mid-continent fields, while in some sections there is noticed a slackening of drilling, other districts are attracting greater activity, so that a fairly even balance of development work is maintained. Some fine wells have been brought in in the northern end of the Cushing pool. Some of these are credited with starting at from 600 to 2,350 barrels a day, and have a marked reviving effect on the yield of the pool. The future of the Broken Arrow pool is a subject of considerable speculation. One of the late completions there has been heralded as striking a rich spot, but more definite tests are required to determine the possibilities. The Mathas pool, south of Bartlesville, is regarded as one of the profitable discoveries of the season. Wells of from 200 to 300 barrels' capacity have rewarded operations. The Wicey pool is fulfilling the favourable expectations in spots, although it is declared the most erratic pool so far developed in the mid-West. Favourable conditions still prevail in the Kansas districts, and development work is active and increasing in extent. One of the best developments in the State is the Erie pool, in which the wells start at from 25 to 75 barrels. Elk City and Tyro are also contributing some encouraging producers.

Refined Products.

No further price development has featured the local market for illuminating oils during the interval, but the enhancement in the export schedule, previously noted, has reflected a more confident tone upon the general market, and with the future stimulus of more favourable seasonable conditions, the volume of business has shown an expanding tendency. The influence of the crude situation also operates to the advantage of the refined market.

The local market for the naphthas, gasoline and similar products has been without noteworthy development during the week, but the general conditions seem

to measure up to seasonable expectations and the market retains a nominally steady tendency at lately prevailing quotations. Our mid-continent correspondence treats of an easier market for gasoline, and further declines are regarded as reasonable by reason of sharper competition on the increasing output. The subject of casing-head gasoline continues to command increasing attention and the number of plants in operation during 1912 is given as 250, as against 176 in 1911, and the total yields amounted to 12,081,179 gallons, valued at \$1,157,76 in 1912, and 7,425,839 gallons (\$531,704) in 1911, averaging 9.58c. and 7.16c. per gallon respectively. The casing-head product has as yet played no appreciable part in local operations. Shipments from the producing plants involve more than the usual element of risk. A recent treatment of the relationship between the increase in the production of motor cars and the appreciation of gasoline during the last ten years placed the former at 3,500 per cent., and the latter at 100 per cent., without including in the list of consuming requirements boats and stationary engines. The following tables were given in this connection:—

GASOLINE PRODUCTION IN UNITED STATES.

	Barrels of 42 gals.		Barrels of 42 gals.
1902...	6,600,000	1910...	13,460,540
1905...	7,706,000	1911...	13,380,656
1907...	12,033,697	1912...	12,910,000

MOTOR CAR PRODUCTION IN UNITED STATES.

1902	10,000	1910	175,000
1905	30,000	1911	250,000
1907	60,000	1912	350,000

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. Nov. 1.	1913. Nov. 1.
Pennsylvania	\$1.60	\$2.50
North Lima	1.04	1.39
South Lima	0.99	1.34
Indiana	0.99	1.34
Illinois, above 30 degrees	0.87	1.30
Kansas and Oklahoma	0.70	1.03
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex.	0.75	0.90
Californian, Coalinga light	0.65	0.60
" Kern River heavy	0.35	0.35
CANADIAN OIL	1.44	1.79

REFINED—FOR EXPORT.

In cents.	Week ended Nov. 1. S.W.	W.W.
	110 test.	150 test.
Bulk, New York	5.00	6.00
Barrels, New York, cargo	8.70	9.70
Barrels, Philadelphia	8.70	9.70
Cases, New York	11.00	12.00
Cases, Philadelphia	11.00	12.00

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29½

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000	\$11.15
1,000 to 3,000	11.25

REFINED—JOBGING LOTS.

In barrels, pkgs. included.

130 fire test, S.W.	11½
150 fire test, W.W.	12
From tank wagons	8½-9

TOTAL EXPORTS.

	Current week.	Since Jan. 1, 1913.	Since Jan. 1, 1912.
	Gallons.	Gallons.	Gallons.
Crude	4,170,960	144,366,409	104,475,225
Refined	13,687,250	764,456,542	775,721,241
Naphtha	1,156,785	99,643,580	118,449,158
Gas oil	3,950	27,063,290	54,002,155
Fuel oil	3,030	109,316,059	75,636,015

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

November 14th, 1913.

The market prices of Refined Petroleum are unaltered, being quoted for:—Roumanian 8d.; Russian, 8 $\frac{3}{4}$ d.; Galician, 8 $\frac{1}{4}$ d.; American, 8 $\frac{1}{2}$ d.; American Water White, 9 $\frac{1}{2}$ d.

LUBRICATING OILS.

The market prices are as follows:—

- No. 1 Russian, £12. 2s. 6d.
- No. 2 Russian, £10. 17s. 6d.
- American pale, from £9. 12s. 6d.
- American dark, from £11. 2s. 6d.
- American filtered cylinder, from £14. 12s. 6d.

FUEL OIL.

The price is 70s. per ton, in bulk, ex wharf.

GREASE-MAKING OIL

is quoted 80s. per ton, in bulk, ex wharf.

MOTOR SPIRIT

The retail price in London for the best quality is 1s. 9d. per gallon, and for the second quality, 1s. 7d. per gallon.

TURPENTINE.

Large business has been done in American Turpentine during the week, and is firm with a slight advance on last week's quotations. The spot price is 32s. 1 $\frac{1}{2}$ d., December, 32s. 3d.; January/April, 33s.; May/August; 33s. 9d.

LIVERPOOL.

November 14th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8 $\frac{3}{4}$ d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well.

INDIA.

BOMBAY, October 19th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Kerosene Oil "Waterlily," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
Chukker, per case of two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, November 13th.

Refined, in cases, is quoted at 11.25; Standard White, 8.75; Credit balances, 2.50.

PHILADELPHIA, November 13th.

Standard White is quoted at 8.75.

GERMANY.

HAMBURG, November 11th.

The petroleum prices remain unchanged. The demand for kerosene begins to be lively, that for benzine decreasing. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, November 11th.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 43 $\frac{1}{2}$ –43 $\frac{3}{4}$ copecs per pood spot. Kerosene, 58 $\frac{1}{2}$ –59 copecs. Residuals, 42–42 $\frac{1}{2}$ copecs.

ROUMANIA. November 11th.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including	Francs.
pipe-line charges, per 100 kgs. Bushtenari	7.80–8.00
" " " Moreni	7.00–7.70
" " " Tzintea	5.50–6.00
" " " Policiori	5.00
" " " Bana	9.50–10.00
Paraffin	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	26.00–26.50
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	18.00–18.50
Residuals, f.o.b. Constanza	...	7.00–7.50
Gas Oil	...	8.00

AUSTRIA. November 11th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 32.50 kronen at Oderberg. Benzine, 740/750, 26 kronen; 750/760, 23 kronen, 760/770, 21 kronen, at Oderberg. Gas oil, 7.30 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, London, E.C., report under date November 13th as under:—

The market is still quiet, but there is more inquiry, and prices of oil sizes are to-day about as follows:—

1c 18 $\frac{3}{4}$ × 14 124 sheets 110 lbs. 13/3 to 13/4 $\frac{1}{2}$ per box.
1c 20 × 10 225 " 156 " 18/9 to 18/10 $\frac{1}{2}$ "

F.o.b. Wales. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

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IMPORTS OF PETROLEUM PRODUCTS INTO THE UNITED KINGDOM.

Specially prepared for this Journal by the Customs House.

FOR THE WEEK ENDED NOVEMBER 10TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
Nov. LONDON—				
4	Port Authority ...	Lub.	5,500	Hamburg
4	" " ...	"	3,780	"
4	R. O. Wiener & Co. ...	"	240	"
4	Hanseatic Maritime Agency ...	"	80	Bremen
4	Pfeifer & Co. ...	Lub. Gr.	130	Antwerp
4	Anglo-American Oil Co. ...	Lub.	13,280	New York
4	Snowdon, Sons & Co. ...	Lub. Gr.	400	"
4	Vacuum Oil Co. ...	Lub.	14,910	"
4	Langley, Smith & Co. ...	"	4,580	"
4	R. T. Lucas & Co. ...	"	540	"
4	Lep. Transport & Depository Ltd. ...	"	100	Montreal
4	Grindley & Co. ...	"	8,000	"
5	Port Authority ...	"	480	Marseilles
5	" " ...	"	260	Hamburg
5	W. H. Müller & Co. ...	"	220	Rotterdam
5	B. Jacob & Sons ...	"	13,290	Philadel.
5	Stockwell & Co. ...	"	600	"
5	Mercantile Lighterage Co. ...	"	32,160	New York
5	Asiatic Petroleum Co. ...	Benzine	1,225,000	Rangoon
5	" " ...	"	552,000	Rotterdam
6	" " ...	"	5,000	"
6	Motor Owners' Petrol Combine ...	"	927,400	Kustendje
6	J. Harrison ...	Lub. Gr.	1,190	Antwerp
6	J. Thompson ...	Lub.	990	Riga
6	Worthington & Boler ...	"	2,880	Philadel.
6	Hanseatic Maritime Agency ...	"	120	Bremen
6	J. W. Cook & Co. ...	"	40,000	Philadel.
6	" " ...	M. Colza	680	"
7	Produce Brokers Co. ...	Lub.	4,000	"
7	Lubricating & Fuel Oils Co. ...	"	47,770	"
7	Port Authority ...	"	460	Hamburg
7	L. Freeland ...	Lub. Gr.	470	Antwerp
7	British and Foreign Wharf ...	Lub.	70	"
8	Port Authority ...	"	3,700	Hamburg
8	Schliemann Oil, etc., Co. ...	Lub. Oil and Gr.	3,300	"
8	Anglo-American Oil Co. ...	Lamp	1,790,910	New York
8	London Oil Storage Co. ...	Lub. Gr.	2,600	Philadel.
8	Mercantile Lighterage Co. ...	Lub.	37,240	"
10	Staley, Radford & Co. ...	Lub. Gr.	320	New York
10	Scott's Wharf ...	Lub.	5,000	"
10	Anglo-American Oil Co. ...	"	36,320	Philadel.
10	Leach & Co. ...	"	120	Ghent
10	W. H. Müller & Co. ...	"	70	Rotterdam
LIVERPOOL—				
4	Bell, Sons & Co. ...	Lub. Gr.	40	Antwerp
4	J. T. Fletcher & Co. ...	Lub.	380	"
4	Dee Oil Co. ...	"	2,600	Baltimore
4	Huxley & Co. ...	"	1,070	New York
5	Burnaby & Chantrell ...	Lub. Gr.	40	Hamburg
5	Pickford's ...	Lub. Oil and Paste	680	"
5	F. Leyland & Co. ...	Lub.	3,120	N. Orleans
5	W. Gibson & Sons ...	Lamp	2,050	Boston
6	Anglo-American Oil Co. ...	Lub.	820,660	New York
6	J. Light & Son ...	"	2,640	Baltimore
6	" " ...	"	3,000	N. Orleans
7	Vacuum Oil Co. ...	"	1,600	Genoa
7	Price's Patent Candle Co. ...	M. Colza	840	Philadel.
8	Vacuum Oil Co. ...	Lub.	21,560	New York
8	Burnaby & Chantrell ...	Lub. Gr.	2,680	Montreal
10	A. Hopps & Sons ...	Resid.	7,800	Quebec
10	Dee Oil Co. ...	Lub.	7,800	Baltimore
10	Vacuum Oil Co. ...	"	53,740	New York
10	Anglo-American Oil Co. ...	"	22,000	"
10	White Star Line ...	"	1,000	"
10	Penwarden & Jackson ...	"	1,000	Antwerp
10	Pickford's ...	"	190	"
BARROW—				
10	Anglo-American Oil Co. ...	Naphtha	933,510	New York
10	" " ...	Lamp	362,160	"
BRISTOL—				
4	Anglo-American Oil Co. ...	"	329,160	"
4	" " ...	Lub.	105,750	"

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
Nov. BRISTOL—				
4	E. Stock & Sons ...	Lub.	200	Hamburg
4	Heaton & Co. ...	Lub. Gr.	120	"
4	Colthurst & Harding ...	"	240	"
5	J. & R. Bush ...	Lub.	4,800	New York
7	Pickford's ...	Lub. Oil and Gr.	290	"
10	Anglo-American Oil Co. ...	Gas	629,800	Sabine
BOSTON—				
3	W. F. Beaumont ...	Lub.	500	Hamburg
GLOUCESTER—				
7	Bristol Steam Navig. Co. ...	"	2,920	"
GOOLE—				
3	Goole Steamship Co. ...	"	130	"
3	" " ...	"	470	"
3	" " ...	"	70	Ghent
GRIMSBY—				
3	J. Sutcliffe & Son ...	"	700	Antwerp
4	" " ...	"	90	"
HARWICH—				
3	Great Eastern Railway ...	"	780	"
HULL—				
31/10	T. Wilson, Sons & Co. ...	"	1,200	Stettin
5	" " ...	"	960	Genoa
6	" " ...	"	240	Riga
6	" " ...	"	14,440	New York
6	W. Gilyott & Co. ...	"	12,000	"
6	Wilson's & N. E. Railway ...	"	480	Hamburg
6	" " ...	"	160	Antwerp
6	" " ...	"	420	Dunkirk
7	T. M. Roberts & Co. ...	Lub. Gr.	240	Hamburg
10	Wilson's & N. E. Railway ...	Lub.	1,480	Antwerp
MANCHESTER—				
4	Anglo-American Oil Co. ...	"	20,740	New York
6	D. Currie & Co. ...	"	1,880	Hamburg
6	C. H. Morton & Son ...	"	480	"
6	J. T. Fletcher & Co. ...	Lub. Oil and Gr.	2,830	Antwerp
10	British Petroleum Co. ...	Lamp	2,145,000	Port Arthur
NEWCASTLE—				
5	P. H. Matthiessen & Co. ...	Lub.	90	Bergen
6	Tyne-Tees Steamship Co. ...	"	490	Hamburg
PORTSMOUTH—				
7	Bristol Steam Navig. Co. ...	"	70	"
SWANSEA—				
7	Burgess & Co. ...	Lub. Gr.	270	"
GLASGOW—				
4	Anchor Line ...	Lub.	2,200	New York
5	Allan Bros. & Co. ...	"	40,120	Philadel.
5	Clyde Shipping Co. ...	Lub. Oil and Gr.	4,800	Antwerp
10	Anchor Line ...	Lub.	43,960	New York
LEITH—				
30/10	Jas. Currie & Co. ...	"	4,800	Hamburg
30/10	G. Gibson & Co. ...	"	400	Antwerp
10	" " ...	"	2,120	"
10	G. V. Turnbull & Co. ...	M. Colza	2,000	Baltimore
10	Jas. Currie & Co. ...	Lub.	120	Hamburg
10	" " ...	"	120	Bremen
BELFAST—				
5	J. C. Pinkerton & Co. ...	Lub. Oil and Gr.	760	Hamburg
10	Anglo-American Oil Co. ...	Fuel	757,640	Baton Rouge
			11,176,850	

From Lloyd's

NOVEMBER 13TH, 1913.

THE "REVIEW" SHIPPING LIST.

The following abbreviations are used in this table:—L. Left. Pd. Passed. Arr. Arrived. Sp. Spoken. T. Trading. Cl. Cleared
The Anglo-American Co.'s vessels marked thus (*). The Anglo-Saxon Co.'s tankers thus (Δ). Messrs. Lane & Macandrew's thus (□).

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
ADORNA	San Francisco	Pisagna	L. Oct. 25	DIAMANT	Philadelphia.	Landserona	Pd. Dunnet Hd.
AMERICAN	Antwerp ...	New York ...	Pd. Lizard Nov. 2	DONAX	Alexandria...	—	Pd. Perim Oct. 30
APPALACHEE*	London	New York ...	96 miles W. Lizard Nov. 1	EBURNA	—	—	Launched Tyne Oct. 14
APSCHERON	Batoum	Antwerp.....	Pd. Gibraltar Nov. 11	EDWARD L. DOHENEY	Tyne	Tampico	6 miles E. of Caister Sept. 27
ARAL	Bergen	Tyne	Arr. Nov. 4. In port Nov. 11	EL LOBO	Lobitos	San Francisco	Arr. Nov. 8
ARAS	Philadelphia.	Lisbon.....	Arr. Nov. 8	EL SEGUNDO	Seattle	San Francisco	L. Oct. 8
ARCA	Calcutta.....	Rangoon.....	Arr. Nov. 11	EL TORO	Kustendje ...	London & Hull	Pd. Oitavos Nov. 10
ARTHUR VON GWINNER	Sea	Bremerhaven	Arr. Nov. 10	ELAX Δ	Singapore ...	Portishead	Pd. Gibraltar Nov. 11
ASHTABULA*	San Francisco	Callao	Arr. ab't Nov. 4	ELISE MARIE	Philadelphia.	Dantzig	Arr. Nov. 10
ASTRAKHAN	New York ...	Dunkirk.....	Off Nantucket Light about Nov. 4	EMANUEL NOBEL...	Kustendje ...	Hamburg ...	Pd. Dover Nov. 12
AUREOLE	Rouen.....	Norfolk, Va.	Arr. Nov. 11	ENERGIE	Baltimore ...	Tuxpan	Cl. Nov. 3
AZOV	Talara.....	San Francisco	Arr. Oct. 30	ERIVAN	Kustendje ...	Naples.....	Pd. Cape d'Ami Nov. 11
BAKU STANDARD...	Kustendje ...	Antwerp.....	Pd. Dardanelles Nov. 7	ESTURIA	Singapore ...	Soesoe.....	L. Nov. 9
BALAKANI □	Port Arthur & Belfast	Manchester...	Arr. Oct. 22. In port Nov. 11	EUPLECTELA Δ	Rotterdam ...	Algiers	Pd. Pantelleria Nov. 11
BATOUM	Emden	Galveston ...	L. Oct. 24	EXCELSIOR	Philadelphia.	Copenhagen..	Pd. Cape Wrath Nov. 12
BAYONNE	Philadelphia.	Naples & Kustendje	L. Algiers Nov. 9	F. A. TAMPLIN	Port Arthur.	Norfolk	L. Nov. 4
BEACON LIGHT	Newport	Port Arthur.	L. Oct. 25	FRANCE MARIE.....	Port Arthur.	Texas City ..	L. Oct. 14
BLOOMFIELD	New York ...	Tuxpan	L. Nov. 4	(Belgian Ship)			
BORJOM.....	Alexandria...	Kustendje ...	Arr. Oct. 22	FUMI MARU	Colombo	Sabang	L. Sept. 22
BRILLIANT (Br. Bq.)	Philadelphia	Kobe	Arr. Aug. 10 for United States	GEESTEMUNDE ...	New Orleans	Sabine.....	L. Port Eads Oct. 30
BRILLIANT	Copenhagen & Tyne	New York ...	L. Tyne Oct. 30	GENESSE*	Liverpool ...	New Orleans	Pd. Sand Key Nov. 4
BRITISH SUN	Philadelphia.	Manchester	Arr. Nov. 12	GEORGIAN PRINCE	Port Arthur.	Spezia	L. Norfolk, Va., Nov. 10
BROADMAYNE	Rouen.....	New York ...	Pd. Lizard Oct. 29	GOLDMOUTH Δ	Shanghai ...	Tarakan	L. Nov. 8
BUFFALO	Shanghai ...	San Francisco	L. Nov. 2	GUT HEIL	Tuxpan	—	Sunk after collision Baton Rouge April 28
BULLMOUTH Δ	Hong Kong..	Palembang ..	L. Nov. 3	H. C. HENRY.....	Los Angeles.	Orient	L. Oct. 4
BULYSES	ThamesHaven	Malta	Arr. Tyne Nov. 8 In port Nov. 11	HAGEN	Hamburg ...	Kiel.....	Arr. July 25. In port Oct. 21
BURGERMEISTER PETERSEN	Dantzig	Hamburg ...	Arr. Oct. 26. In port Nov. 11	HAINAUT (Barge) ...	—	—	T. between Tampico and Aransas Pass
C. A. CANFIELD* ...	Baltimore ...	Tampico	L. Sabine Oct. 25	HARPORT	Tocopilla ...	San Francisco	L. Oct. 30
CALCUTTA (Br. Bq.)..	Yokohama ...	San Francisco	Arr. Oct. 20. In port Oct. 31 for Shanghai	HARRY	Baltimore ...	Boca Grande	Pd. Diamond Shoal Oct. 26
CAMILLO	Newport ...	Port Arthur, Texas	L. Oct. 29	LUCKENBACH			
CAPTAIN A. F. LUCAS	—	—	T. United States, Pacific	HARRY WADSWORTH*	New York ...	Galveston ...	L. Norfolk, Va., Oct. 28
CARDIUM Δ	—	Singapore ...	Arr. Nov. 11	HELIOS	Sabine	Hamburg ...	Cl. Norfolk, Va., Oct. 30
CARPATHIAN □	Port Arthur.	Amsterdam..	L. Newport News Nov. 7	HERA	Messina	Kustendje ...	L. Nov. 10
CAUCASIAN □	Tees	Philadelphia.	Off the Wight Nov. 3	HERBERT G. WYLIE	Tampico.....	—	Arr. Galveston Nov. 4
CHARLES E. HARWOOD	Tyne	Tampico.....	24 miles W. of Lizard Oct. 5	HERMIONE	Portsmouth	Port Arthur.	Pd. Sand Key Nov. 9
CHARLOIS.....	Amsterdam	Philadelphia.	Pd. Dover Nov. 8	HESPERUS	San Francisco	Pisagua	L. Oct. 27
CHATHAM.....	Tuxpan	New York ...	Arr. Oct. 28. In port Nov. 1	HORLEY	Baltimore ...	Tampico.....	Pd. Sand Key Oct. 26
CHESTER	Antwerp.....	Port Arthur..	L. Nov. 12	HOTHAM NEWTON	Rouen.....	Port Talbot.	Arr. Nov. 9. In port Nov. 12
CHEYENNE	Kustendje ...	London	Pd. Sagres Nov. 11	HYRCANIA	Batoum	Amsterdam & Hamburg	Pd. Dardanelles Nov. 9
CHIRA (Tug)	—	—	Coasting Peru and Ecuador	ILLINOIS	Antwerp.....	New Orleans	In wireless com. Oct. 29. 7 a.m.
CIRCISSIAN PRINCE	—	—	T. W.C. South America	IMPEROYAL	—	—	T. River St. Lawrence
CITY OF EVERETT	New York ..	NewportNews	L. Oct. 30	IMPOCO	Kustendje ...	—	Pd. Dardanelles Nov. 6
CLAM Δ	Kustendje ...	Hamburg ...	Arr. Nov. 8. In port Nov. 11	IOANNIS COUTZIS...	—	—	On Govt. Service
CLEARFIELD	New Orleans.	Tuxpan	L. Nov. 8	IROQUOIS (Towing Barge Navahoe)	London	New York ...	40 miles W. of Lizard Nov. 5. 1.30 p.m.
COMANCHEE	New York ...	Dublin & Belfast	Arr. Dublin Nov. 12	J. B. AUG. KESSLER	Bizerta	Port Said ...	L. Nov. 11
CONCH Δ	Suez	Gemsah	Arr. Nov. 4	J. OSWALD BOYD ...	Clyde	Manchester & Tampico ...	In Clyde Nov. 11
CONRAD MOHR	New York ...	Christiania...	L. Nov. 5	JULES HENRY	Marseilles ...	Rotterdam ...	Arr. May 24. In port Nov. 11
CORDELIA	Port San Luis	Antofagasta..	Arr. ab't Nov. 7	(Fr. Bq.)			
COWRIE Δ	Soesoe.....	Singapore ...	Arr. Nov. 10	JUNO	Palembang...	Miri.....	L. Oct. 21
CURRIER	Philadelphia.	Matanzas ...	314 miles S. of Overfalls Oct. 31	KANAKUK	San Francisco	Balek Pappan	L. Oct. 22
CYMBELINE	Bordeaux ...	New York ...	L. Nov. 9	KASBEK.....	Dunkirk.....	Philadelphia.	Arr. Nov. 7
CZAR NICOLAI II...	Hamburg ...	Batoum	Pd. Tarifa Oct. 30	KIOWA	Hamburg ...	Tampico.....	Off the Wight Nov. 4
DAGHESTAN	Antwerp.....	Batoum ...	L. Nov. 5	KIO MARU	Callao	Valparaiso ..	Arr. ab't Oct. 20
DANUBIAN □	London	Port Arthur.	Pd. Lizard Nov. 3	KOMETA	Antwerp.....	Kustendje ...	L. Nov. 6
DAYLIGHT (Br. Bq.)	Hioigo	Hong Kong	Arr. Oct. 20	KREMLIN	Havre.....	Rouen	L. Nov. 12
DELAWARE*	New York ...	Barrow	Arr. Nov. 10	KURA	New York ...	Hamburg ...	Arr. Nov. 10
DELPHIN	—	—	Launched Rostock Oct. 16	LA CAMPINE	New York ...	Antwerp.....	Pd. Dover Nov. 13
DERBENT	Batoum	Manchester ..	Pd. Dardanelles Nov. 11	LA FLANDRE	Antwerp.....	New York ...	Pd. Scilly Oct. 25
DESALBA	—	—	Launched Tyne Sept. 18, and was in river Nov. 11	LA HESBAYE	Antwerp & Norfolk, Va.	New York ...	Pd. Cape Henry Oct. 29
DEUTSCHLAND	New York ...	Gothenburg	Pd. Dunnet Hd. Nov. 11	LACKAWANNA*	Liverpool ...	New York ...	20 miles W. of Brow Hd. Nov. 12

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
LE COQ □	New York	Havre Roads.	L. Nov. 1	ROTTERDAM	Philadelphia.	Amsterdam...	L. Nov. 8
LOKI	Hamburg	Philadelphia.	Pd. Lizard Nov. 2. In wireless com. Nov. 3, 5.26 p.m.	ROUMANIAN □	London.....	Kustendje ...	Pd. Gibraltar Nov. 7
LUCCELLUM	Port Arthur.	Portland, Dor.	Arr. Nov. 5	ROUMANIAN PRINCE	Trinidad...	Thames Haven	L. Nov. 5
LUCERNA	Kustendje	Rouen.....	Pd. Gibraltar Nov. 6	RUSSIAN PRINCE	Tampico	Port Arthur..	Arr. Oct. 28
LUCIGEN	Portsmouth..	Kustendje	Pd. Gibraltar Nov. 13	SALAHADJI Δ	Newcastle, N.S.W.	Tarakan.....	L. Oct. 28
LUCILINE □	Port de Bouc	Kustendje	Arr. Nov. 7	SAMOSET	San Francisco	Moji	L. Oct. 16
LUMEN	Thames Haven	Tyne	Arr. Nov. 12	SAN ANTONIO.....	—	—	T. Mexican Coast
LUTETIAN □	Cette	Novorossisk..	Arr. Nov. 10	SAN BERNARDO	—	—	T. Mexican Coast
LUX □	Novorossisk..	Bordeaux	Pd. Gibraltar Nov. 11	SAN CRISTOBAL	—	—	T. Mexican Coast
LUZ BLANCA	Tyne & Amsterdam	Seattle	Arr. ab't Nov. 12	SAN DUNSTANO.....	London & Hull	New Orleans	Arr. Nov. 12
MAKKAVEI	Marseilles	Batoum ...	L. Nov. 7	SAN EDUARDO	Puerto Mexico	Batoum	L. Nov. 10
MANNHEIM	Hamburg	Philadelphia.	Pd. Lizard Nov. 11	SAN FRATERNO.....	Tuxpan	New York ...	L. Nov. 10
MARGARETHA	Liverpool	Braila	Pd. Dardanelles Nov. 10	SAN GREGORIO	Rotterdam ...	New York ...	Arr. Nov. 5 (dry docking)
MASCONOMO	San Francisco	Moji	L. Oct. 14	SAN RICARDO	Puerto Mexico	Batoum	Pd. Dardanelles Nov. 11
MASSASOIT	San Francisco	Kuchinotzu	Arr. Oct. 26, for Madras & Calcutta	SAN SILVESTRE.....	Manchester..	Sabine.....	Pd. Sand Key Nov. 10
MAZOUT I.	Antwerp	Ango Ango (Congo)	Arr. Sept. 26	SAN TIRSO	Puerto Mexico & Norfolk, Va.	Algiers	L. Norfolk Nov. 6
METEOR	Batoum	Vladivostock.	Arr. Colombo ab't Nov. 3	SAN URBANO	—	—	Launched Tyne Sept. 30. In port Oct. 14
MEXICAN PRINCE.	Chinkiang	Kuikiang	L. Nov. 5	SANTA MARIA	Taltal	San Francisco	Arr. Oct. 10
MIJDRECHT	Hamburg & Immingham	Braila	Pd. Gibraltar Nov. 12	SANTA RITA	Bilbao.....	Port San Luis	Arr. Nov. 12
MINA BREA	—	—	At Callao Oct. 17	SATANTA	San Francisco	Hong Kong..	Arr. ab't Nov. 12
MIRA	Savona	New York	Pd. Gibraltar Nov. 7	SAXOLEINE	Tyne	Philadelphia.	Pd. Cape Race Nov. 9
MITRA	Tyne	Port Arthur.	Arr. St. Michael's Nov. 10	SEBASTIAN	—	—	Launched Dun- dee Apr 1 24, since complet'g
MOHAWK*	New Orleans	Campana	L. Port Eads Oct. 4	SEQUOYA	Balek Pappan	San Francisco	Arr. Oct. 5
MOHICAN	Copenhagen & Tyne	New York	Pd. Dunnet Hd. Nov. 8	SERVIAN □	Port Arthur.	Avonmouth & London	Arr. Avonmouth Nov. 11
MUREX Δ	Balek Pappan	Singapore	Arr. Nov. 11	SHABONEE	Sunderland..	New York ...	Arr. Nov. 7
NARRAGANSETT	New York & London	Liverpool	Arr. Oct. 22. In port Nov. 1	SIOUX.....	New York ...	Tuxpan	Pd. Sand Key Nov. 2
NATICA	Singapore	Gibraltar	Arr. Suez Nov. 13	SIRIUS (Ger.)	Kustendje	Copenhagen	Pd. Dardanelles Nov. 10
NEKO	Leith	S. Shetlands.	Arr. Monte Video ab't Oct. 20	SOCONY	New York	Port Arthur.	Arr. Oct. 19
NELSON	New Orleans	Jucaro.....	L. Oct. 10	SOYO MARU.....	Abadan	—	Arr. Suez Nov. 11
NEW YORK*	Rotterdam	New York	Pd. Lizard Oct. 31	SPLENDOR	Genoa	New York ...	Pd. Gibraltar Nov. 10
NIAGARA	Shanghai	Victoria, B.C.	Arr. Nov. 13	STAG	Antilla	Garston	Arr. Nov. 4
NORMAN BRIDGE	Tampico	Perth Amboy	Arr. Nov. 3	STANDARD	Sabine.....	London	L. Nov. 3
OBERON	Tocopilla	Port San Luis	Arr. Oct. 13	STROMBUS Δ	Rangoon & Sheerness	London	Arr. Nov. 6. In port Nov. 12
OCEAN	Rotterdam	New York	Pd. Lizard Nov. 10	SULTAN VAN LANGKAT Δ	Bombay	Abadan	L. Nov. 5
OILFIELD	Philadelphia.	Savona	Pd. Delaware B'water Oct. 31	SUNLIGHT (Br. Bq.)	Flushing	Macoris	Arr. Nov. 10
OKLAHOMA	Rotterdam	New York	Arr. Oct. 29	SURAM	Sabine.....	Hamburg	Pd. Lizard Nov. 12
ORIFLAMME □	Furt	New York	L. Sept. 26	SUWANEE*	London & Plymouth	Philadelphia	Pd. Lizard Oct. 31
OSAGE	Novorossisk..	Nordenham & Rotterdam	Pd. Gibraltar Nov. 12	SVIET	Marseilles	Batoum ...	Cl. Constanti- nople Oct. 27
OTTAWA*	New Orleans & Belfast	Liverpool	Arr. Nov. 12	TECUMSOH	Tuxpan	Philadelphia.	Arr. Nov. 9
OURAL	Batoum	Rouen.....	In Havre Roads Nov. 12	TELENE Δ	Balek Pappan	Singapore ...	Arr. Nov. 10
PALEMBANG	—	Singapore	Arr. Nov. 9	TEREK	Philadelphia.	Copenhagen.	Pd. Delaware B'water Oct. 30
PATELLA Δ	Thames Haven	Algiers	Pd. Dungeness Nov. 8	TEXAS	New York	Port Arthur..	Arr. Oct. 27
PAUL PAIX	Swansea	New York	Arr. Nov. 8	TIFLIS	Batoum	Thames Haven	Pd. Dardanelles Nov. 7
PAULA	New York	Swinemunde	Sp. Nov. 4, 43 N. 54 W.	TONAWANDA*	Philadelphia.	London	Arr. Nov. 12
PAWNEE	Rotterdam	Baton Rouge.	Arr. Nov. 10	TRINCULO	Vancouver..	Port San Luis	Arr. Oct. 22
PECTAN	Antofagasta.	Port San Luis	Arr. Oct. 26	TRINIDADIAN.....	Tuxpan	Tampa	270 miles S.W. of Tampa Bar Nov. 3
PENNOIL	Port Arthur.	Hamburg	Arr. Nieuwe Waterweg Nov. 11	TRITON	Rotterdam	Baton Roug.	45 miles W. of Ushant Nov. 8
PETROLEINE	New York	Bordeaux	L. Nov. 4	TROCAS Δ	Singapore	Woosung	L. Nov. 2
PETROLEUM	—	—	Pd. Dard'illes Oct. 30, bound down	TURBO	Novorossisk..	Tientsin	L. Hong Kong Nov. 4
PHOEBUS	Iquique	Callao	Arr. ab't Nov. 11	UNCAS	San Francisco	Kuro	L. Oct. 19
PINNA □	New Orleans.	Manchester..	Arr. Nov. 10	VEDRA	New Orleans.	Bremerhaven.	L. Norfolk, Va., Nov. 9
PONUS	San Francisco	Hankow	Arr. ab't Nov. 4	VILLE DE DIEPPE (Norwegian Barque)	Philadelphia.	La Pallice	Pd. Delaware B'water Oct. 22
POTOMAC*	Sabine & Avonmouth	Liverpool	Arr. Nov. 11	VITRUVIA.....	Port Arthur.	Avonmouth..	L. Norfolk, Va., Nov. 1
POWHATAN	San Francisco	Taku Bar	Arr. Shimonoseki ab't Nov. 10	VOLCANUS	Singapore	Saigon	Arr. Nov. 10
PROMETHEUS.....	Callao	San Francisco	Arr. Nov. 1	VOLUTE Δ	Shanghai	Balek Pappan	L. Nov. 8
PRUDENTIA.....	New York	Tampico	L. Oct. 31	WABASHA...	San Francisco	Moji	Arr. Shimonoseki ab't Nov. 6
PURELIGHT.....	Port Arthur.	Norfolk, Va. & Dover	L. Nov. 2	WANETA (lt. Impoco)	Galveston	Tampico	L. Nov. 3
QUEVILLY (Fr. Bq.)	Havre	New York	L. Nov. 9	WAPELLO	London	New York	L. Nov. 13
RADIOLEINE II.	Braila	La Pallice & Rouen	Pd. Gibraltar Nov. 9	WASHINGTON	Copenhagen.	Hamburg	Arr. Oct. 18. In port Nov. 11
RANELLA	Singapore	Woosung	L. Nov. 8	WEEHAWKEN	Saville	Cienfuegos...	Arr. Gibraltar Nov. 12
RENDOVA (Br. Bq.)	Seville	New York	Pd. Bonanza Sept. 20	WILLIAM F. HERRIN	Astoria	Monteroy	1,624 miles from San Francisco Oct. 28
RICHMOND	New Orleans.	Campana & San Francisco	Arr. Buenos Aires ab't Nov. 10	WILLKOMMEN	Stockholm...	Tyne	Arr. Nov. 11
RION	Philadelphia.	Garston	Pd. Fastnet Nov. 11	WINAMAC.....	New York	Port Said	Arr. Algiers Nov. 8
ROCK LIGHT □	Amsterdam	Braila	Pd. Gibraltar Nov. 3	WOTAN	Hamburg	New York	In port Hamburg Nov. 13
ROMANY Δ	Kustendje	—	Pd. Dardanelles Nov. 10				
ROSALIND.....	Philadelphia.	London	L. Nov. 10				

The Petroleum Review Directory.

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Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

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Spencer, John, Ltd., Globe Tube Works, Wednesbury.
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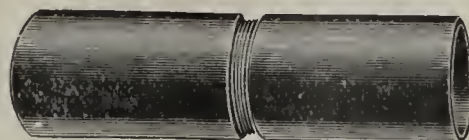
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THE PETROLEUM REVIEW.

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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

The Coming Activity in Oil.

THE long-looked-for and much-talked-of coming boom in oil, though not having yet arrived, cannot be any great distance away as evidenced by the firmer tone which is pervading oil investments generally. Not only

has a distinct recovery set in with regard to prices, but there is considerably more inquiry for the cheaper class of oil securities than for a long time past. That this new strength is the forerunner of a period of great activity in oil is generally conceded, the one surprise being that oil has remained in the background so long. When markets improve a little further there will be a rush of new companies to the public, and we know of at least a dozen promising concerns which are ready to see the light of day at the first favourable moment. Past mistakes as affecting promotions have taught a lesson too important to be ignored, and it is safe to say that the majority of the new appeals to the public for finance will be of a very clean character, shorn of all that sliminess which was one of the characteristics of several flotations of bygone days.

Opportunities for Oil Engines.

THERE are many, we know, who will study the weighty words which fell from the lips of Dr. Dvorkovitz the other evening at Cannon Street Hotel when he addressed oil-engine manufacturers and their representatives

upon the vast opportunities which exist for expanding the popularity which the oil engine has already gained in various commercial channels. Strange as it may appear, in the several branches of the petroleum industry the oil engine has not yet even made its

serious debut, and on the oil fields themselves, though the tendency now is to favour the oil engine for power purposes, the old-fashioned steam boiler continues to hold sway. The oil engine has long ago passed its experimental stages; it is now a power producer of the first order, in which is combined efficiency with strict economy, and if oil-engine manufacturers generally do not take advantage of the numerous openings which Dr. Dvorkovitz has suggested, the fault will be theirs alone.

Congratulations to Mr. W. H. Macgarvey.

WE are sure we are only echoing the sentiments of our readers in every part of the world when we extend our heartiest congratulations to Mr. W. H. Macgarvey, who in the next few days will celebrate his seventieth birthday.

There are, indeed, few to whom the name of Mr. Macgarvey is not familiar, for to him more than to any other individual the European petroleum industry to-day owes much for its position. When Mr. Macgarvey brought to Europe his Canadian drillers and that country's well-known system of boring, the oil industry was in its infancy. He was the pioneer in oil drilling in many of the European fields, and if one desires to see a living monument of his energy and perseverance, let him go to Galicia, whose petroleum industry has been built up to a great extent by the enterprise of our good friend Mr. W. H. Macgarvey. Therefore, many congratulations.

Roumania's Extending Export Trade.

IN spite of the serious set-back which must have been given to Roumania's petroleum export trade during the past few months owing to the Balkan trouble, a new record has been established recently in the foreign shipments of petroleum products, and it is safe to say that henceforward Roumania will export no less than 1,000,000 tons of petroleum products annually. Her foreign shipments for October alone amounted to upwards of 90,000 tons, but great as this quantity is, it is evident that a substantial increase will be recorded once the new Constanza pipeline is in full working order. The transport of petroleum products to the export installations at Constanza has always been a troublesome question with the refining interests of Roumania, and though the Government has done much to alleviate the grievance, some considerable amount of congestion is bound to continue until the pipeline is in operation. Then without a doubt the foreign petroleum trade of Roumania will receive an impetus such as it never had before.

The Recent Roumanian Conflagration.

THE recent fire in the prolific oil district of the Moreni Valley, Roumania, has not had such serious effect upon the production of crude oil in this locality as was at first imagined. As a matter of fact, most of the producing wells which were put out of action by the fire have now been brought into production, and the somewhat remarkable point is that some of the damaged wells, after having been repaired, are now producing even more crude oil than they did before the fire. For instance, the famous No. 1 well of the Colombia Company, which has already produced nearly half a million tons, has recommenced its eruptions at its old rate of from four to five hundred tons per day, while the Standard Oil Company's well is giving a production in excess of its yield before the fire, the daily output registering nearly seven hundred tons. As showing the activity which has characterised the repair of the damaged wells, it may be mentioned that the two wells referred to above were brought into production within six days after the output of the recent fire.

THE LAUNCH OF THE "ARUM."

THE first of the Diesel-engined vessels for the Flower Motor Ship Company, Ltd.—the "Arum"—is to be launched next week on the Tyne, when the ceremony will be performed by Lady Samuel. A full report of the interesting event will be published in the next issue of the REVIEW.

A SPECIAL TAX UPON MEXICAN CRUDE OIL

THE REVIEW learns that the Mexican legislature is promoting a bill which proposes to impose a special tax upon Mexican crude oil of native origin, at the rate of one Mexican dollar per ton. This is equivalent to slightly over 2s. per ton.

THE OUTPUT OF GALICIA'S PRINCIPAL WELLS.

THE total production of crude oil in the Boryslaw-Tustanowice fields during October was approximately 79,000 tons, or about 1,200 tons less than the output for the preceding month. The largest producing well in Tustanowice during the month was Tloka No. 18, of Messrs. Macgarvey, which yielded 3,300 tons. The Lilium well of the Galician Oil Trust produced 3,000 tons, and the famous Rockefeller well of the Motor Owners' Petrol Combine, Ltd., gave a production of 2,300 tons. The Nafta Company's well No. 6 produced a similar quantity, as also did the Maria well of Messrs. D. Fanto & Co. The Premier Oil and Pipeline Company have no less than half a dozen wells, all of which produce considerably over 1,000 tons each per month.

MAIKOP VICTORY OIL COMPANY, LTD.—Owing to pressure on our space, we are compelled to hold over the report of this company's meeting until our next issue.

CHAS. N. GOULD, Ph.D.,

Former State Geologist of Oklahoma. 20 Years' Experience.

Developed and Undeveloped Oil Properties in the
MID-CONTINENT OILFIELD

Examinations and Reports.

408, TERMINAL BLDG., OKLAHOMA CITY, U.S.A.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended November 15th was 117,000 poods.

SPIES PETROLEUM COMPANY, LTD.—The production for week ended November 16th, including 660 poods from ambars, was 298,930 poods, or about 4,821 tons. The total production for the year from January 14th to November 16th, was 11,553,505 poods, or about 186,347 tons. The total production for the corresponding period last year was 14,297,150 poods, or about 230,599 tons. Price of crude oil at Baku is now 44 copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended November 15th was 23,021 poods, or 371 tons.

EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended November 16th was 99,100 poods, or 1,598 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended November 15th was 127,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended November 15th was 26,142 poods (422 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended November 15th was 8,050 poods, or 130 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended November 16th was 10,256 poods, or 165 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended November 15th, 118,970 poods or 1,919 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest production for week ended November 18th was 301,090 poods, or 4,856 tons. Corresponding period last year, 1,717 tons. Total production to date for this year, 102,552 tons, last year 28,495 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended November 16th was 103,866 poods, or 1,675 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended November 15th was 113 tons.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended November 8th was 15,949 poods (257 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended November 15th was 1,235 poods (20 tons).

GERHARD & HEY,
OILFIELDS SHIPPING AGENTS,
Great St. Thomas Apostle
(Off Cannon Street),
LONDON, E.C.

ESTABLISHED 1856.
Telephone: City 8840 (4 lines).

A PIONEER IN THE PETROLEUM INDUSTRY.

Mr. W. H. MACGARVEY.

*A Brief Sketch of
One of the Most -
Successful Oil -
Men of the Da . -*

DURING the coming week the congratulations of all oil men will go out to Mr. W. H. Macgarvey upon the attainment of his seventieth birthday. Still hale and hearty in spite of his advanced age, Mr. W. H. Macgarvey to-day wields a power throughout the numerous circles of European oil, which, it is safe to say, has no equal.

We therefore make no apology for referring somewhat in detail to the career of Mr. Macgarvey, who, on November 27th, 1843, was born at Huntingdon, in the province of Quebec, Canada. It was at Wyoming (Ontario) that he commenced his commercial career, removing to Petrolea when 23 years old. It was here that his eventful career as an oil pioneer may be said to have started.

The discovery of crude oil at Petrolea and Oil Springs in the early sixties gave a remarkable impetus to the development of both districts, and it was when this activity was in its bud that the subject of our sketch became fascinated with the possibilities of crude oil production. He decided to go into the industry right away, and within a very short space of time, Mr. Macgarvey was recognised as one of the most successful pioneers of the Canadian oil industry.

He was the one sought-after person in the Petrolea oil district, and at one time there were few operating concerns with which he was not in one way or other associated. He rapidly rose in importance, as is seen from the fact that in 1876 he became the Mayor of Petrolea, and three years later was elected as Warden for the county of Lambton. Mr. Macgarvey commenced to take an active part in politics, and stood about this time as the conservative candidate for Parliament for the county of Lambton, but the contest was unsuccessfully fought. His candidature, however, was

remarkable inasmuch as the number of votes polled by him was far greater than at any previous time.

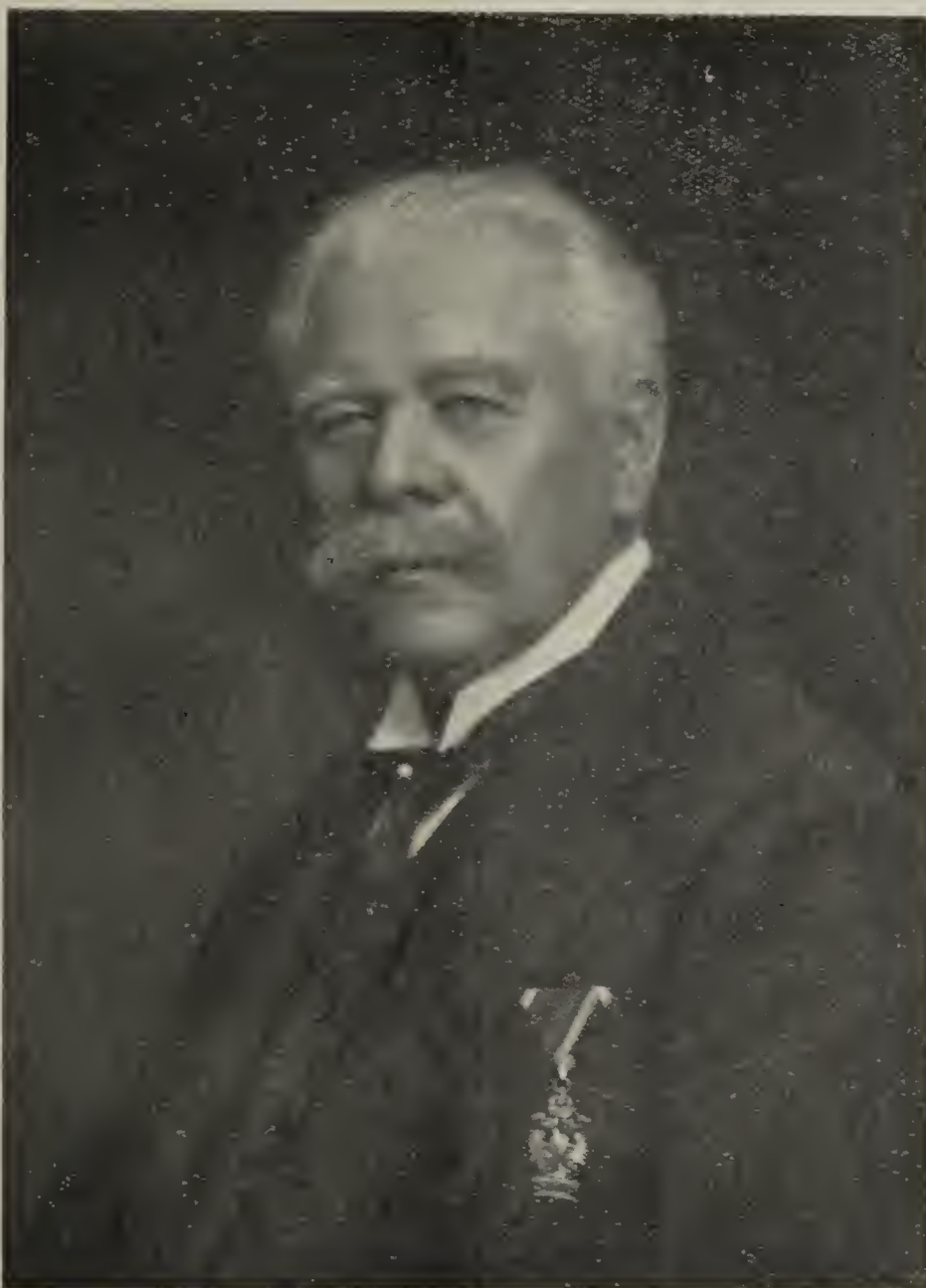
One of the first really important Government works undertaken by Mr. Macgarvey was in 1880, when, on behalf of the Federal Government of Canada, he took upon himself the management of an expedition

to the Canadian North-West for the purpose of determining the area of the coal deposits. At the time such a mission was looked upon as practically impossible, inasmuch as hitherto unexplored country had to be traversed with heavy machinery. The expedition suffered great privations, but the result was worthy of the attempt, to use Mr. Macgarvey's own words, for it was highly successful.

It was in the following year that our friend came to Europe—the continent which was hereafter to witness so many brilliant successes for him. At that time there was considerable interest centred in the petroleum districts in the German province of Hanover, and with a view to carefully exploring these Mr. Macgarvey became the manager of the Continental Oil Company—a concern laying itself out for drilling work.

Mr. Macgarvey brought machinery and an expert staff of oil drillers from Petrolea, and by this step brought about the advent of the Canadian drilling system in Europe. From that day to the present he has been recognised as the pioneer in Europe of the Canadian system—a system which will ever be closely associated with his name, no matter in which European field it finds scope.

It was while he was manager of the Continental Oil Company that he became associated with Mr. J. S. Bergheim. A warm and close acquaintance sprang up between the two oil men, and as we know it was only the untimely decease of Mr. Bergheim in September



Mr. W. H. Macgarvey—Wearing the Imperial Order of the Iron Crown.

of last year that broke the life-long friendship. Mr. Macgarvey and Mr. Bergheim joined for a time in the management of the Continental Oil Company, but eventually they broke away from the old firm to band themselves together for life.

After conducting several unsuccessful drilling operations in the German fields, Messrs. Bergheim and Macgarvey finally staked their fortunes upon the then little known Galician oilfields, commencing their first oil well in Uherce, in Central Galicia.

Mr. Macgarvey's remarkably successful career is frequently erroneously attributed to a very liberal amount of good luck, but those who are aware of the manifold difficulties he had to contend with in the early years of his association with the Galician petroleum industry cannot but appreciate the fact that the success was in a far greater measure due to his untiring energy and the courage with which he faced—and surmounted—all obstacles.

The first considerable success which he and his partner obtained was the discovery by them of the Weglowka and Wietrzno oil districts in Galicia. This success was quickly duplicated, and the name of Messrs. Bergheim and Macgarvey soon became a name to conjure with in Galician, and, in fact, in all European oil circles.

The discovery of other oilfields followed, and in 1895 the business, which to this time had been in the hands of the two oil men, was formed into a company, the now well-known Galizische-Karpathen Petroleum Actien Gesellschaft. Formed in what may be termed an atmosphere of modesty, the company soon began to extend its operations and widen the scope of its activities, and among the early achievements of the new company was the construction of a refinery and the erection of drilling tool shops at Glinik Maryampolski. Mr. Macgarvey's old friend, Herr August Korczak Ritter von Gorayski was appointed chairman of the company, and upon the retirement of this gentleman Mr. Macgarvey was elected to fill the important post. Thus he became the titular head, as he has all along been the life and soul of the company.

A sketch of Mr. Macgarvey's career would be incomplete if we did not pay more than passing attention to the energies of this company, whose fortunes he has guided with such conspicuous success.

From small beginnings the Galizische-Karpathen Petroleum Actien Gesellschaft had increased its influence, until to-day it exercises a paramount influence over the whole Austrian petroleum industry. This fact can be easily appreciated when we mention that its present drilling programme for the year includes the sinking of no less than 35 deep wells in various parts of the Galician field, and to-day its crude oil production runs into over 12,000 tons per month.

But in addition to controlling a large proportion of the crude oil produced in Galicia, the company, apart from its original refinery at Glinik Maryampolski, owns two important refineries in Hungary, thus being represented in both halves of the dual monarchy. The company, too, carries on a very extensive crude oil transport undertaking by means of its pipelines and storage installations, while its drilling tool and machinery manufacturing departments are the largest and best equipped in the whole of Europe, the tools

being employed on most of the oilfields of the world.

There is only one word to say in conclusion. Mr. Macgarvey is no optimist. He looks upon the search for oil with that reserve which has stood him in such good stead throughout his commercial activity. One is never certain of success, he has often said, until the oil is struck, and we think the petroleum industry at large would be better off had it more men of the thought of Mr. Macgarvey. His spirit of enterprise has been one of his chief stepping-stones to success, for had he not eagerly sought for oil in parts hitherto virgin, Galicia to-day would not be the great oil-producing country she is.

As an example of Mr. Macgarvey's enterprise, the Maikop field may be quoted, for is not the Deep Drilling Company the ultimate result of Mr. Macgarvey's desire to see the Maikop deep strata tested? Though therefore Mr. Macgarvey has been silent upon the possibilities of the Maikop field, the trend of his opinions is easy to see, and one day we trust that he, too, may see Maikop soundly established as one of Russia's great oil-producing territories.

Mr. Macgarvey's son, Mr. F. J. Macgarvey, is, like his worthy sire, well known and greatly respected throughout Europe, and to him, too, a great deal of the recent success of the Karpathen Company is due.

We are sure our readers will join with us in wishing Mr. W. H. Macgarvey "happy returns of the day."

ROUMANIAN PETROLEUM EXPORTS DURING SEPTEMBER.

THE exports of petroleum products from Roumania during September amounted to 65,937 tons, as against 97,040 tons exported during the preceding months, showing a decrease of 31,103 tons. The exports of various products to different countries were as under:—

			Residuals. Tons.	Kerosene. Tons.	Benzine. Tons.
England ...	...	...	7,187	3,862	16
Austria ...	...	...	3,093	112	2,250
Belgium ...	..	...	—	5,472	—
Bulgaria ...	...	...	36	535	241
Egypt ...	...	...	3,312	7,388	10,425
France ...	...	...	38	2,076	3,797
Germany ..	...	...	1,105	177	—
Greece ...	...	...	46	—	12
Italy ...	..	...	—	—	—
Denmark ...	...	...	2,112	—	—
Tunis ...	...	...	2,078	—	41
Turkey ...	...	...	50	1,836	11
Servia ...	...	...	805	235	137
Switzerland ...	...	...	—	5,264	—
Sweden ...	...	...	—	—	—

Besides the above products there were exported 996 tons of crude oil, 51 tons of paraffin, and 1,140 tons of gas oil, lubricating oil and other products.

Astra-Romana.—The average production of this company during the last week amounted to 989 tons a day, of which 713 tons were produced at Stavropoleos, 131 tons at Bana, 98 tons at Filipeshti, 44 tons at Campina, and the rest at Baicoi and Glodeni. The reduced figure in the production is explained by the fact that a certain number of wells were destroyed by the fire on November 2nd, but all these wells will soon be in production again. The prospects for a considerable increase in the production owing to the new strikes of oil, are quite favourable.

NEXT YEAR'S INTERNATIONAL OIL EXHIBITION.

MEETING OF OIL ENGINE MANUFACTURERS.

Dr. Dvorkovitz upon the Advantages of Oil Engines.

IN connection with next year's International Oil Industries Exhibition, to be held at Earl's Court, S.W., a meeting of representatives of oil-engine manufacturers was held at Cannon Street Hotel, E.C., on Wednesday evening.

Dr. Paul Dvorkovitz presided over a gratifying attendance, and in opening the meeting, delivered a very interesting address upon the advantages of oil engines, also making pertinent reference to the supply of oil for power purposes in the future.

He said the fact that oil engines were so comparatively little used in the various branches of the petroleum industry was to be generally deplored. The reason was undoubtedly due to the conservatism of the various manufacturers, who up to the present had not seriously set out to educate directors of oil companies and technical men generally in the immense advantages which such engines possessed when compared with steam engines and boilers.

For instance, in the Galician fields, there was scarcely any place where oil engines were used as the motive power for drilling operations. He had an experience of the ignorance which prevailed regarding the advantage of the oil engine when he stated that a very competent Galician driller on the Maikop fields removed an oil engine, which had been very successfully installed, and replaced it with a steam engine and boiler. Such an attitude towards oil engines was naturally due to the ignorance which prevailed as to their advantages, and the reason for this was to be found in the fact that the oil-engine manufacturers had not endeavoured to persuade those concerned of what oil-engine economy really meant. In his own experience he had proved that oil engines for oil boring operations possessed immense advantages over steam power, and especially in places where water was difficult to obtain. He was associated with one company which was actually paying practically £3 per day for water for their field boilers.

It was therefore the duty of those interested in the manufacture of oil engines to see that their claims were known and appreciated by those who had the conduct of the petroleum industry in their hands. And what would it mean? It would mean that in the oilfields of Russia alone the manufacturers would be able to supply from two to three thousand such engines to companies, who having once tried them would be very grateful for having had the claims of oil engines brought to their notice. The usually adopted power method in the Russian fields—engines and boilers—were very ineffective, especially in the cold weather, when the maximum power was lost through condensation.

But it was not only in the oilfields that there was a tremendous opening for oil engines. Take the case of the Baku refineries, where very little steam was required. What was mostly requisite was continuous

power. Yet there were but few refineries in which oil engines were used. The crude oil for treatment had to be pumped from the fields to the refinery storages, and from there to the refineries themselves, then back to the storages, and finally the refined products had to be pumped into steamers, tank wagons or other means of transport. It could therefore be taken that nearly 12,000,000 tons of liquid was pumped from one place to another in the course of twelve months in Baku, and that for the major part was done by the very expensive method of steam engines and boilers. There again, without question, if oil-engine manufacturers would bring the advantages of their engines before the technical men and directors of the various oil companies, they would willingly follow their advice and the oil engine would soon be generally adopted in the place of engines and boilers.

Coming nearer home, they could take the opportunities for the adoption of the oil engine for power purposes in the large oil-storage installations. Take the case of the Thames Haven wharves, where they had one of the largest public storages in the world. Approximately that wharf dealt with between 300,000 and 400,000 tons of products per annum, which were pumped from the tankers into shore tanks, and eventually re-pumped into tank-cars, lighters, etc. Therefore something like 800,000 tons were dealt with in the course of each year, and the necessary power for pumping was derived from steam boilers—admittedly a very expensive method. For agricultural purposes, oil engines had already become very popular in Russia, and over 15,000 were giving the greatest satisfaction to-day. Why then could not their use be extended to the various branches of the petroleum industry?

It might be that when some of those present were bringing the claims of the oil engine before prospective consumers, they raised the question of the possibility of failing supplies of oil in time to come. That was a question—and a very important one—which was no doubt responsible to some extent for the restricted use of oil engines generally. But users could be assured that whatever the demand, the supply would be equal to it. He (the speaker) was upon a committee appointed by the Russian Government in 1883 when the question as to a probable dearth of oil supply was discussed. At that time the crude oil production of the world was something like ten million barrels per annum; to-day it was not under 370,000,000 barrels annually.

And yet in spite of this enormous crude oil output, it was no exaggeration to say that the oilfields of the world were as yet but touched upon their fringe. For instance, they had the great territories in California, Texas and Mexico, not to speak of other parts of the American continent, while in Galicia, Russia, Roumania, and other established oil-producing fields, they had immense areas awaiting the drill. He could truthfully

say that so far the total area occupied by actual oil developments to-day did not represent more than, say, ten thousand acres as a maximum; whereas in Roumania alone they had no less than four hundred miles of a well-defined oil belt. In Russia they had an even greater area; it was correct to say that the petroli-ferous land was practically unlimited.

But even apart from the ability of the oilfields to yield the vast supplies which would be necessary for the future, they had an important proposition in the exploitation of the numerous oil shales, and also the production of oil from coal. Without doubt the time had arrived when it was opportune to commence development of the rich deposits of shale found not only in parts of Scotland and England, but in Canada, Australia and New Zealand. As to the production of oil from coal at low temperatures, those present would no doubt be acquainted with recent developments, and in the light of these it was interesting to recall the fact that no less than 22 years ago the speaker delivered a lecture upon the distillation of coal at low temperatures for the extraction of petroleum products before the Society of Chemical Industry. As they knew, in those by-gone days there was no need for further supplies of oil, for there was not the demand. In fact, oil was a drug on the market, for then they were selling paraffin oil at 2d. a gallon. From what he had said it would be clear that there need be no question of a dearth in supplies of oil for the future generations, and if this doubt had been seriously raised in the past, there was no reason why they should hear any more of it in the future.

He hoped the oil-engine manufacturers would recognise the great opportunities which awaited their energies, and unquestionably one of the best means of making the oil engine a popular source of power in connection with the various phases of the petroleum industry was to take advantage of such an exhibition as they would have early next year in London.

Mr. H. Higgins said the meeting was greatly indebted to their chairman for his interesting speech. He could only echo the remarks he had made as to the ignorance which prevailed in the petroleum industry of the economies which could be effected by utilising oil engines for the generation of power. He had recently been in the United States and Canada, and when approached by one party as to which was a really reliable make of oil engine, he had to admit that he knew nothing about the qualifications of any oil engine. It was only through such an Exhibition as they would shortly have in London that the public at large, but more especially those interested in the oil industry, could be educated as to the great advantages of oil engines.

Mr. G. D. Smith, the general organiser of the Exhibition, then gave some details to the meeting concerning the progress made thus far in the fixing up of arrangements for the forthcoming show, and said he was pleased to say that its success was already assured. With reference to the display of oil engines at the Exhibition, he had reserved a special portion of the hall in which the engines could be seen at work, and he trusted manufacturers would appreciate the advantage of this.

A brief discussion followed, after which a hearty vote of thanks to the chairman for presiding concluded a most interesting meeting.

CORRESPONDENCE.

THE "PARKER" ROTARY IMPROVEMENTS.

SIR,—My attention has been called to the comment which appears in your issue of the 15th inst. regarding the new Crown Block for use with Parker Mogul Rotary and Combination Outfits. As an Englishman, I rejoice that English manufacturing practice generally ranks with the best in the world, but I think any unbiassed individual will agree that American oil field machinery manufacturers enjoy natural advantages which explain their unquestionable priority in the development of modern drilling machinery.

I think it is a pity your correspondent did not trouble to obtain full particulars of our new invention before writing to you. Had he done so, I am sure he would not have done us the injustice of claiming priority for a device, features of which are as a matter of fact patented, and therefore, presumably novel. His misunderstanding is apparently due to a careless reading of the necessarily brief notice which you published. The work done by the Crown block pulleys is, of course, very much greater with the rotary than with a percussion rig, owing to the fact that the hoisting line operating the rotary drill stem is constantly moving. The defects of the old methods of lubrication and adjustment of these parts as used for percussion drilling consequently become more apparent with the rotary: hence our invention. This gives universal adjustment and scientific lubrication, enabling the pulleys to run for several months without attention.—I am, Sir, yours truly,

J. H. SKILTON
(London Manager, J. F. Lucey Co.)

Tank Storage, Cardiff.

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PREMISES of

The Victoria Petroleum Company, Limited,

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tons each, and 3 Tanks of 1,500 tons each.**

*The Storage can be let as a whole, or divided to suit
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Besides accommodation for LUBRICATING and
ILLUMINATING OILS, there are exceptional
facilities for the landing, storing and delivering, in
bulk, barrels, cases, etc., of MOTOR SPIRIT, FUEL
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Railways throughout the United Kingdom.

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ELY HARBOUR, CARDIFF.

OUR AUSTRALIAN LETTER.

From Our Own Correspondent.

MELBOURNE, 18th October.

IN regard to the matter of trusts and combines in Australia, relative to which our labour party had a good deal to say during the recent Federal election campaign, the Federal Attorney-General has decided that out of the 26 cases upon which the Federal Crown solicitor has been called upon to report, there were but one or two instances of proof having in his own opinion been afforded that Australian industry was injuriously affected. Among the 26 cases, the Federal Crown solicitor had on several occasions been called upon to advise the Governments with regard to rebate having been allowed to retailers by the Colonial Oil Company. A form of declaration was stated to have been issued to retailers by the company to the effect that they could only get oil upon the declaration that they had neither bought or sold any other than the company's kerosene during the period named in the declaration. In the opinion of the Federal Crown solicitor, the question was whether such a condition was made with the intention to destroy or injure any Australian industry the preservation of which was advantageous to the Commonwealth, having due regard to the interests of producers, workers, and consumers. There was nothing, the solicitor declared, to show that there was any Australian industry within the meaning of the act which would be destroyed. He stated he did not see how it could be proved that allowing rebates could restrain trade, because the greater the rebate the cheaper the public ought to get the goods, and the greater should be the trade. There was, he added, no evidence of any conspiracy or intention to raise prices to the detriment of the public. He was, therefore, of the opinion that it would not be advisable to take proceedings.

Speaking at Lithgow (N.S.W.) recently, a municipal authority referred to the scheme for the re-arrangement of the Commonwealth Oil Corporation, recently sanctioned by the Chancery division of the High Court of Justice, England. He said he hoped that the stoppage would only be of short duration. He believed the Federal Government would assist the company by giving a bonus. The Colonial Oil Corporation had spent £1,500,000, and now its works were standing idle. It was not Australian money which had been invested, but every trade in Australia had reaped a certain amount of benefit from this large expenditure. The Government, he believed, had received about £75,000 from the corporation as revenue, and the company was now left to sink. It had employed about 1,700 men, who had had to leave their homes and search elsewhere for work. He sincerely trusted that the Australian Government would give a bonus, which would revive the oil works and establish an industry in Australia which would be of great benefit in the future.

It is gratifying to learn that our new Minister for External Affairs intends to push forward an exhaustive

investigation of the Papuan oilfield. Mr. Glynn has evidently been deeply impressed by the information supplied him by Judge Murray as to the results of past developmental and exploratory work, and he takes a very hopeful view of the prospects ahead. "If anticipations are realised," he says, "the industry will prove to be one of the largest projects with which Australia has yet had to deal." So far nothing certain is known of the extent and character of the deposits. All that has been proved is the existence of oil. It has been found, however, in so many places and over so wide an area of country that responsible experts have not hesitated to predict a great future for the field. The experimental work carried out during the Fisher Government's term of office was not large, but the results achieved are decidedly encouraging. One bore reached a depth of about 250 ft., and then stopped for the time being because no storage provisions had been arranged for, and the indications strongly warranted the assumption that a considerable flow of oil would soon be encountered—the strata last penetrated, indeed, were saturated with petroleum. All told, the outlook is exceedingly bright, and official expectations more than justify the action contemplated by the Minister.

Two returns have just been issued giving particulars of the bounty paid under the Shale Oil Bounties Act, and under the Manufacturers' Encouragement Act. In the first return it is stated that £803. 14s. 6d. was paid to the Commonwealth Oil Corporation, of Hartley Vale, and Newnes, N.S.W., for the manufacture of kerosene, and £881. 13s. 9d. for the manufacture of refined paraffin wax; while £1,988. 1s. went to the British Australian Company, of Hamilton, N.S.W., for kerosene, and £85. 14s. 8d. for refined paraffin wax, the total distribution being £3,759. 3s. 11d.

At the conclusion of a recent lecture on the history of the petroleum industry, given by an expert of the Vacuum Oil Company, at the Automobile Club of Victoria, the president said that a most iniquitous suggestion by the New South Wales Minister for Public Works had been reported. The minister had said that he hoped to make a proposal to the Cabinet for the establishment of a petrol monopoly, which would provide money for the maintenance of the roads. Members were aware that in New South Wales the motor-car tax was much lighter than it was in Victoria. The Government, if it took control of the sale of petrol, would be able to charge motor-users whatever price it liked. If the oil companies could be compelled to hand over their businesses—though he failed to understand how such a proposal could be seriously made—the Government would have to be strenuously fought. He urged that motorists should combine to prevent the price of petrol being increased.

The president of the Trades and Labour Council, Newcastle (N.S.W.), recently addressed delegates on

the question of the Australian shale oil industry, and the intention of the Newcastle council to wait on the Government to ask that the bonus should be extended to provide 2d. per gallon on all crude oil produced in the Commonwealth. The Newcastle Chamber of Commerce had determined on national grounds to advocate an increase in the bounty on all Australian-produced crude oil. Mr. Rogers outlined the fight that was taking place between the Standard Oil Company and the Royal Dutch Company. The latter had a powerful asset in the quantities of benzine available; while the Standard Oil Company was all powerful in kerosene. Both companies were represented in the Commonwealth, and the country had to choose between them and the white-labour Australian shale oil industry. He emphasised the growing need for oil for warships, and the claims of the local industry, which had already passed through many vicissitudes, for ample and adequate protection. An example was to be found in Scotland of the manner in which the oil industry had been checked by the Standard Oil Company being allowed to get a grip in the country. Out of some hundred companies operating in the early sixties only seven were now left. The shale areas of New South Wales were situated in the mountains and the inaccessible positions, and much capital would be needed, as well as liberal support, to develop the industry. Shale was mined in the same way as coal. The by-products were valuable and numerous, and were obtained from the shale in the following order: Benzoline motor spirit, benzine, heavy benzine, best kerosene (150 test), second grade kerosene, cleaning kerosene fuel oil, lubricating oils, greases, paraffin wax, sulphate of ammonia, bricks, and gas. The Scotch companies had reduced their costs of working until the profit was now 3s. 6d. per ton of shale. The Australian industry was some way distant from this result at present, but with the grit, perseverance and Government protection it could do the same. Mr. Rogers outlined help given by the Government under the Shale Oil Bounties Bill, which provided the sum of £50,000 spread over three years. This bill would expire on the 30th June. It gave a bonus of 2d. per gallon on all refined kerosene made in Australia, and 2s. 6d. per cwt. on refined paraffin wax. The Government's intention was to give assistance to the industry to the extent of £50,000, but the fact that less than £9,000 had been earned by or paid over to the companies pointed to the fact that the scope of the bill was not as generous as the good intention at the back of it. The two oil shale companies had paid into the Federal Customs department £40,000 duty on machinery. It was the intention to ask the Government to provide a bonus of 2d. a gallon on all crude oil produced in the Commonwealth.

The companies had not asked for a duty on kerosene, recognising that for years to come they would be only able to supply one million gallons of the twenty-four required for consumption in the Commonwealth. The companies were not asking for increase in the duties on motor spirits, benzines, naphthas, oil fuel, or paraffin wax. Residual oil from the east of America and mineral lubricating oils should be taxed, and the latter placed on a level with castor

and other oils, and taxed at 6d. a gallon. The capital spent in the two Australian companies was nearly £2,000,000, and since 1908 a small army of men had been constantly employed in the group of townships in the west. A sum of £800,000 had been spent in wages, and regular employment would be found, if the Government should help, for 1,100 men. The companies had summed up the position thus: "We find that although these oils are required in Australia, the foreign importer, by reason of his cheaper labour, can keep us out of the markets. We therefore ask the Government to give us a hand."

Finally, Mr. Rogers dealt with the trials given of the Australian shale oil. The benzine had been found a more powerful motor fuel than the American product; the kerosene had a greater illuminating area (and the State railways are using a large quantity of the kerosene), and as oil fuel it had been tried and proved in the warships. The Australian paraffin wax was of the highest grade. Too much stress could not be laid on the need for a supply of fuel for the navy, for oil was contraband in war, and if the fleet had to depend for its supplies in the future on the industry in the northern islands and Papua, it would be a grave matter. "The assistance asked for," said Mr. Rogers, "is reasonable in every way, and the Australians will see to it that any effort of theirs will not be lacking to give the industry a chance to continue and to become in time an asset of national value."

The geological staff of the Victorian Mines department, while not prepared to say that petroleum does not exist in the Warrnambool (Victoria) district and along the south-western coast, is not sanguine that it will be struck. This is, in fact, the only portion of the State in which the departmental experts think that there is any likelihood of oil being discovered. The visit of Mr. F. J. Waley, an oil expert from the United States, to Warrnambool and Koroit, has revived interest in the subject. He is reported to have said that he thinks it would pay to bore for oil down to 2,000 ft. either at Anglesea or west of Warrnambool, but the departmental professional men think that it would be imprudent to start boring with a plant that was not capable of going down to 5,000 ft., and such a plant would, it is estimated, cost £5,000. As recently as December last, Mr. H. Herman, the Director of Geological Survey, submitted a report in which he adopted a very cautious attitude. While he thought it possible that oil might be discovered, he did not see his way to recommend State encouragement towards development.

PATENTS.

Specially contributed by Messrs. EDWARD EVANS & CO., Consulting Engineers, Chartered Patent Agents and Enrolled Patent Attorneys of the United States, of 27, Chancery Lane, London, W.C. The undermentioned "Application Published" is in the stage in which opposition to the grant of patents upon them can be made.

Messrs. EDWARD EVANS & CO. would be pleased to forward a copy of any of the Specifications on request, and on remittance of a P.O. for 1s. to cover cost and postage. They would also be pleased to advise upon the novelty, subject matter, and value of any invention submitted to them by our subscribers.

APPLICATION PUBLISHED.

Conversion of heavy hydrocarbon oils into lighter hydrocarbons.—Charles Jason Greenstreet, 505, Lockwood Avenue Webster Groves, St. Louis, Missouri, United States. No. 16,452 of 1912. This relates to a process of treating crude oil, which consists in forcing a stream of commingled steam and oil through a long continuous coil of pipe kept at a substantially cherry temperature, the coil being free from obstruction and abrupt angles.

APPLICATION FILED.

Process of and apparatus for converting heavy hydrocarbons into lighter hydrocarbons.—Walter Hopkins. No. 24,218 of 1913.

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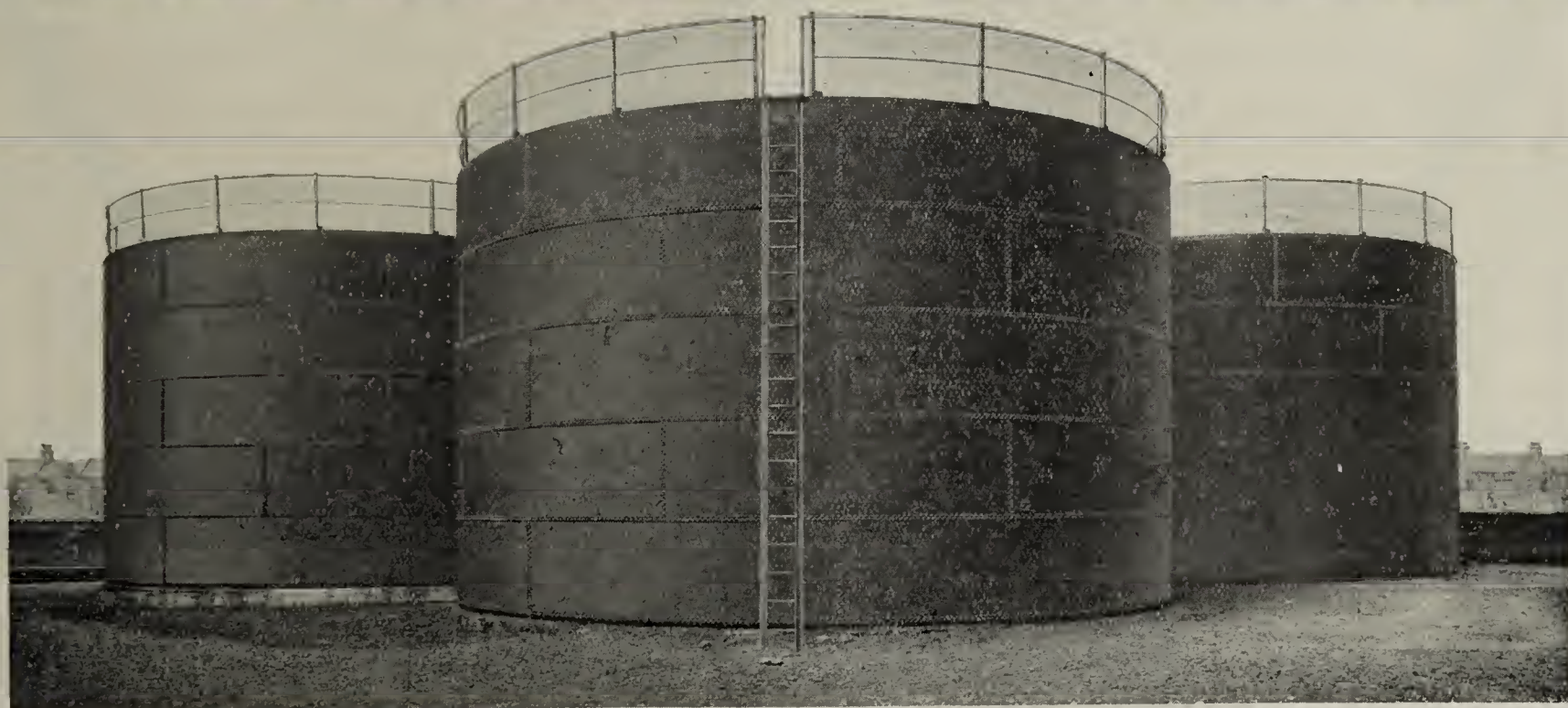
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ENGLISH COMPANIES.

This list is restricted to companies who have paid dividends or who are producers.

Company.	Share Capital.	Value of Shares.	Latest Prices.
	£		
Anglo-Maikop Corporation...	650,000	£1	10/9-11/9
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{13}{16}$ - $\frac{15}{16}$
„ 5% Deb. Stock ...	600,000	£100	87-91
Assam Oil ...	310,000	£1	$\frac{19}{32}$ - $\frac{23}{32}$
Baku Russian Petroleum Co.	750,000	10/-	5/3-5/9
Bibi-Eibat Oil Co. ...	250,000	10/-	7/3-8/3
European Oilfields ...	385,000	10/-	6/0-7/0
Lobitos Oilfields, Ltd. ...	400,000	£1	27/9-28/9
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{5}{8}$ - $\frac{3}{4}$
Pacific Oilfields, Ltd. ...	250,000	£1	3/0-4/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	21/6-22/6
Russian Petroleum Co. ...		10/-	3/9-4/3
Schibaieff Petroleum, new Pr	cf. (fully paid) s/s	—	$1\frac{7}{16}$ - $1\frac{9}{16}$
„ „ new Ord.	690,000 s/s	(fully paid)	16/3-17/3
Shell Transport and Trading	7,000,000	£1	$4\frac{15}{16}$ -5
„ „ „	3,000,000 Pref.	£10	10 $\frac{1}{4}$ -10 $\frac{1}{2}$
Spies Petroleum Co. ...	750,000	10/-	24/0-25/0

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	715	718
Caspian Society (Issue 1910) ...	1,000	3,175	3,185
A. I. Mantascheff & Co. ...	250	770	775
Nobel Bros. ...	5,000	20,350	20,450
Nobel Bros. (Issue 1912) ...	250	1,040	1,045
Russian Naphtha Society ...	100	293	295
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	273	274
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	395	400

SCOTCH PRICES.

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Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	37/6
„ 6% Cum. Pref.	100,000	£10	£11 $\frac{1}{4}$
Burmah Oil, Ord. ...	1,100,000	£1	72/0
„ Pref. ...	250,000	£1	26/6
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
„ 5% Pref. ...	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	5/7 $\frac{1}{2}$
Mexican Eagle Oil, Ltd.,			
Non. Cum. Pref. ...	\$8,500,000	\$10	39/3
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	36/0
„ Pref. (£1 paid) ...	100,000	£1	21/4 $\frac{1}{2}$
Premier Oil Ord. ...	2,300,000	£1	7/0
Pumpherstons Min. Oil Co., Ltd.			
Ord. (17/- paid) ..	110,500	17/-	$5\frac{23}{16}$
„ 6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	11/9
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	75/0
„ „ B ” Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).
Dordtsche Petroleum Industrie My., Ord. ...	Aand 185
„ „ „ Pref. ...	„ 189
Royal Dutch Petroleum Co. ...	„ 625
Moeara Enim Petroleum Maatschappij ...	„ 244
Perlak Petroleum Maatschappij ...	„ 39
Sumatra Palembang Petroleum Maatschappij ...	„ 231
Zuid Perlak Petroleum Maatschappij, Pref. ...	„ 37
Tarakan Petroleum Maatschappij ...	„ 127



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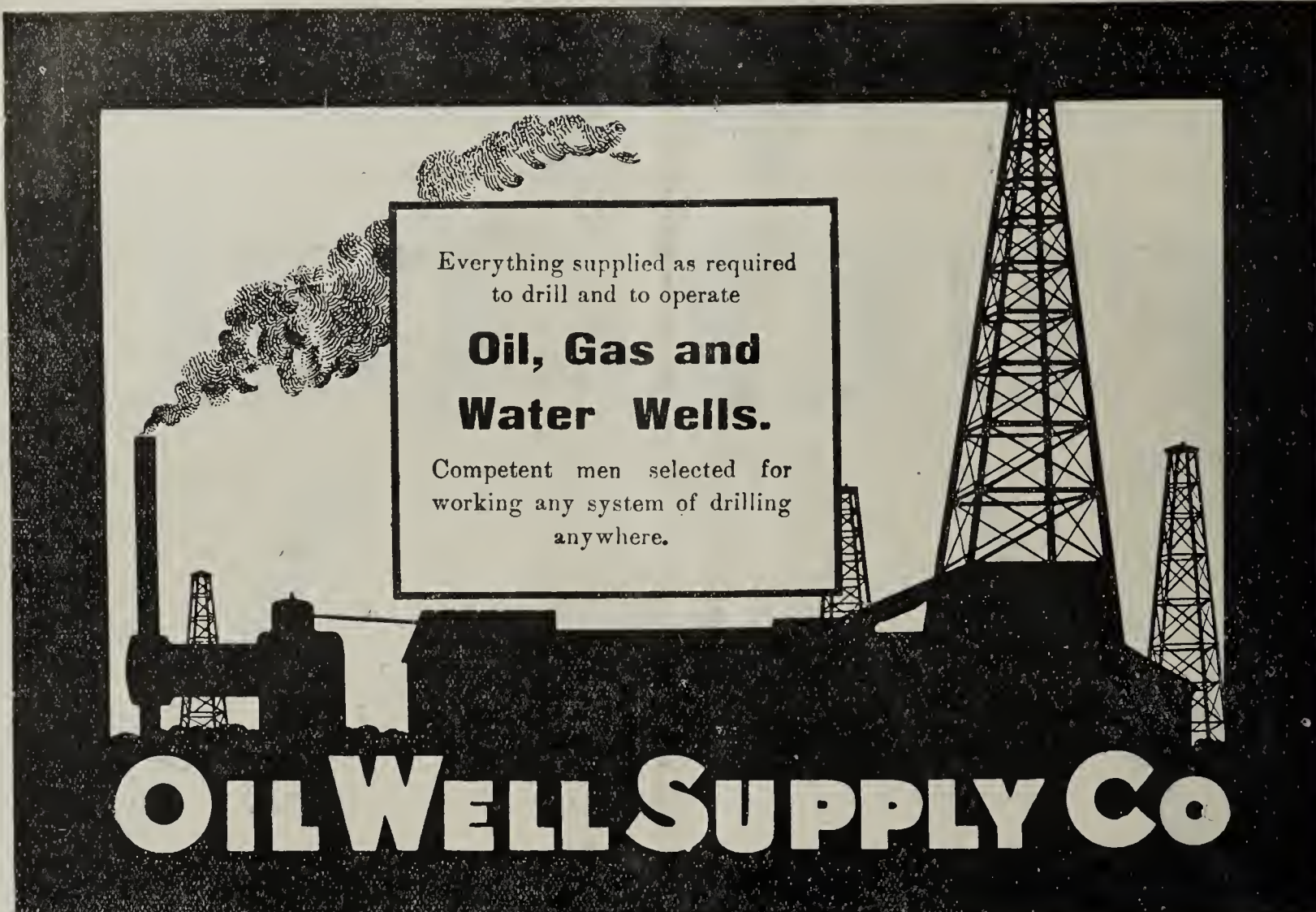
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CHIEF CONTENTS.

	PAGE
Editorial Notes	539
Production of English Companies in Russia	540
A Pioneer in the Petroleum Industry	541
Next Year's International Oil Exhibition	543
Our Australian Letter	545
Latest Quotations of Petroleum Shares	548
Conserving America's Oil and Gas Wealth	551
Classified Imports into the United Kingdom	552
The Roumanian Consolidated Oilfields, Ltd.	553
New English Companies	554
Developments in the Oilfields	554
Foreign Capital in the Mid-Continent Fields	556
The Mexican Petroleum Industry during 1912	559
Petroleum Imports into the United Kingdom during October	561
Home and Foreign Market Intelligence	563
Imports of Petroleum Products	564

— THE — PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.
American Office: 111, Broadway, New York.

SATURDAY, NOVEMBER 22ND, 1913.

CONSERVING AMERICA'S OIL AND GAS WEALTH.

IN no other oil-producing country in the world is such a determined step being taken to conserve the country's mineral wealth of oil and gas as in the case of the United States, where the lesson of the proverb "Waste not, want not" has been seriously taken to heart.

It was, we believe, Dr. David T. Day who first drew attention to the deplorable waste which daily occurred

in America's deposits of mineral wealth, for in his report some three years ago he made a special point of the fact that some millions of dollars had been lost owing to sheer lack of attention on the part of oil and gas operators. That the warning had its effect is clear from the attitude which has since been taken up by various interests in regard to the prevention of further waste on the oil and gas fields. We recollect many instances of where prolific oil wells have been allowed to flow wild for weeks and months—first, owing to the inability of the operators to bring them under control, and, secondly, owing to the absence of suitable storage. But the waste in this respect is of far less importance compared with the enormous loss occurring through the wild flowing of gas wells in various parts of the fields. At one time a gas well was looked upon as of no great asset, since, unless it was feasible to pipe the gas to some industrial centre comparatively close by for use as power or light, the only alternative which presented itself was to allow the well to waste its contents in the atmosphere.

To-day, however, matters have materially changed, and the gas well is regarded, and rightly so, as an immense asset, for in the majority of cases it is possible to treat the gas whereby it will yield a commercial proportion of gasoline or motor spirit.

The conservation of America's mineral wealth, therefore, is a matter of great importance, and in the circumstances it is not surprising to find that the various Conservation Commissions are actively engaged in thus protecting and furthering the interests of the oil and gas producer.

In this connection we are reminded of the great work which has recently been successfully accomplished by the Louisiana Conservation Commission in the Caddo fields; in fact, the idea which, brought into practical effect, has been the means of conserving millions of feet of natural gas, will ever stand out as a crowning piece of science, and, we have no doubt, be freely acted upon when occasion necessitates.

For over six years a wild gas well in the Caddo fields has burned incessantly, consuming, it is estimated, up to 100,000,000 cubic feet of gas daily. In view of the fact that Louisiana alone last year lost millions of dollars of natural gas value in this way, it was decided that an attempt should be made to control this well which had defied all the forces of man for six years. At first an attempt was made to close the well from the crater at its mouth, but this cavity was of such a

great area that it was soon evident the work would be of no avail. Then the Conservation Commission hit upon the ingenious plan of drilling a relief well at a point about 150 ft. from the burning geyser. When the relief well was down to a depth of nearly 1,000 ft. the battle between the forces controlled by man and those controlled by nature commenced. Water was pumped into the relief well at a pressure of 300 lbs. at the surface, in the hope that it would penetrate the sandy gas rock, and thus check the burning well. Day after day thousands of tons of water were forced down the relief well at increased pressure, until the burning geyser showed signs of being choked, while eventually with a water pressure of something like 1,000 lbs., the wild well, which had defied all attempts for six years, became completely smothered.

Thus a great victory for conservation has been accomplished, not only because enormous waste has been stopped, but because it has now been clearly demonstrated that no longer need man be afraid of burning gas wells, which can now be controlled not by the outlay of considerable finance, but by a comparatively small amount, which in the present case works out at less than one-tenth of one per cent. of the actual loss.

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Belgium ..	—	250	14,330	653,803	—	—	—	—	—	55,050	—	120	—	4,910	14,330	725,133
Canada ..	—	—	—	9,820	—	61,850	—	—	—	—	—	—	—	—	—	71,670
Dutch Indies ..	—	—	—	—	—	—	—	—	437,000	37,955,450	—	299,497	—	—	437,000	38,254,947
Germany ..	—	208,220	49,800	3,283,240	—	600	52,100	211,810	420,000	471,640	—	400	—	4,610	521,900	4,180,520
Holland ..	—	—	120	9,930	—	—	—	—	5,000	7,344,340	—	—	—	590	5,120	7,354,860
Mexico ..	—	5,753,800	—	—	—	—	—	—	—	1,528,800	—	12,812,160	—	—	—	21,133,040
Roumania ..	833,500	17,342,857	—	—	—	—	—	1,038,280	—	3,909,230	—	9,027,540	—	—	833,500	31,429,627
Russia ..	—	9,844,560	791	11,408,871	—	393,390	—	1,150,000	—	11,889,350	—	—	—	—	791	33,536,171
U.S.A. ..	1,832,551	104,581,537	704,370	42,695,074	18,575	231,355	4,892,500	59,322,910	—	23,706,880	172,740	5,681,260	10,260	856,715	7,630,996	237,075,731
Other Countries	—	80	5,260	142,340	—	480	—	—	—	4,859,240	—	62,870	—	1,460	5,260	5,066,470
	2,666,051	137,731,304	774,671	58,203,078	18,575	687,675	4,944,600	61,723,000	862,000	91,719,980	172,740	27,883,847	10,260	868,285	9,448,877	378,828,169

THE ROUMANIAN CONSOLIDATED OILFIELDS, LTD.

EXCLUSIVE VIEWS ON THE PROPERTIES.

In the next issue of the REVIEW we shall publish an article dealing with the Roumanian Consolidated Oilfields, Ltd., illustrated by photographs taken by the company's chairman, Mr. Richard W. Barnett. In the meantime, the illustration given on this page will be of interest.—ED. P.R.



Wells Nos. 5 and 4 upon the Roumanian Consolidated Property at Tzintea, the Orion Company's Well being shown in the Background.

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DEVELOPMENTS IN THE OILFIELDS.

LATEST PROGRESS REPORTS OF ENGLISH COMPANIES.

Traian Roumanian Oil Company, Ltd.—Production (week ended November 15th), 303 tons.

Anglo-Maikop Corporation, Ltd.—Manager at Krimskaya cables :—" Well No. 1, depth, 1,330 ft. Well No. 2, shaft repaired. Well No. 3, depth, 507 ft."

Pacific Petroleum.—Cable, dated November 18th : "Have under-reamed to a depth of 3,325 ft. Preparing temporarily to shut off water."

New Schibaieff.—Production week ended November 15th, gross, 118,970 poods (1,919 tons); net, 69,638 poods (1,123 tons).

North Caucasian.—Production week ended November 18th, 301,090 poods (4,856 tons), against 106,450 poods (1,717 tons). Total to date, 6,358,254 poods (102,552 tons), against 1,766,705 poods (28,495 tons).

Maikop Pipeline and Transport Company, Ltd.—Received for pumping (week ended November 15th) :—Ekaterinodar line, 91,278 poods (1,472 tons); Krimskaya line, 8,850 poods (143 tons).

Oilfields of Mexico, Ltd.—Well No. 19, 4,529 ft.; there has been no change. Well No. 31, replacing 10 ins. Well No. 32, pulling 15½ ins. Well No. 33, rigging up derrick. Production last week, 2,900 barrels (414 tons).

Roumanian Consolidated Petroleum Company, Ltd.—Production (week ended November 15th), 1,255 tons. Cable from Ploeshti, dated November 17th :—"Well No. 3 Chiciura started flowing slowly this morning."

Levanovskoe Petroleum Company, Ltd.—Production (week ended 15th instant), 48 tons. Well No. 1, cleaning one day. Well No. 2, plugged 670 ft. Well No. 3, depth, 1,420 ft., under-reaming. Well No. 4, depth, 891 ft.

Lagunitos Oil, Ltd.—Production first half of November, 1,700 tons. Wells drilling—No. 87, 500 ft.; No. 89, 917 ft.; No. 90, 167 ft.; No. 91, 20 ft. Finished—No. 73, 1,690 ft.; No. 85, 796 ft.; No. 88, 270 ft. Erecting rig for Nos. 92 and 93.

Maikop Midland Oilfields, Ltd.—Well No. 2, experimenting with pump compressor. Well No. 3, preparing to cut out 8-in. column. Well No. 4, two days' production lost on account of compressor experiment. Well No. 5, 1,636 ft., testing water shut off. Well No. 6, depth, 396 ft.

Anglo-Roumanian Petroleum Company, Ltd.—Production (week ended 15th November), 376 tons. Well No. 28 gave very little three days while cleaning cork; yesterday (Sunday), gave 80 tons. Well No. 16, expect reach corresponding depth Well No. 28 about the end of this week. Well No. 25, full oil; owing to difficulty, neighbours cannot open out till Wednesday.

Tampico-Panuco and Chijoles.—The general manager cables, date 19th instant: "Tamboyoché No. 1 drilling slow; 3,548 ft. hard limestone. Arena No. 1, 1,805 ft.; hard limestone. Chijoles No. 1 stopped while replacing packer blown out. No. 2 producing 400 barrels per day. No. 3 connected up with tank; 40 barrels daily, awaiting pump. No. 4 commenced drilling. Nos. 5 and 6 made contract for drilling. Tampico-Panuco Valley Railway: Construction plans and staking out completed; purchase of land for right of way proceeding."—(Office note: No mention is made of any interference owing to disturbances. Everything therefore appears to be as quiet as it has always been).

Kern River Oilfields of California, Ltd.—The management committee of the St. Helens Petroleum Company, Ltd., report by cable as follows :—"Santa Maria, well No. 1, depth, 3,350 ft., gas show. Midway King lease, well No. 3, depth, 1,750 ft. Midway McLeod lease, well No. 1, depth, 3,325 ft.; good gas show at 3,310 ft. Fullerton, Anaheim lease, well No. 2, depth, 2,800 ft., withdrawing 8-in. casing. Fullerton, Anaheim lease, well No. 3, depth, 1,800 ft. Montecristo Company, east of Anaheim lease, have struck oil at 2,775 ft. in large quantities; flowed strongly; now sanded up."—(Office note: the Montecristo Company's lease of 20 acres lies immediately between the St. Helens Company's Anaheim and Anderson leases).

THE LANARK SYNDICATE, LTD.

Registered on November 14th by Percy Haseldine & Green, 10, Queen Street, E.C. Capital, £1,000 in 5s. shares. Objects: To prospect for and explore mines supposed to contain petroleum and other kinds of oil, and to carry on the business of refiners of petroleum, etc., also to enter into an agreement with William C. H. Maniece. First directors (who are to number not less than two nor more than five) are William C. H. Maniece and William F. E. Englis. Qualification, £1. Remuneration, £20 per annum. Registered office, 28, Budge Row, E.C. Private company.

PARSANI OIL-ESTATE SYNDICATE, LTD.

Registered on November 12th by W. Webb & Co., 31, Bridge Row, E.C. Capital, £40,000 (39,700 ordinary shares of £1 each, and 6,000 deferred shares of 1s. each). Objects: To acquire any petroleum and oil-bearing lands, and to carry on the business of refiners of petroleum and other oils. Minimum cash subscription, ten per cent. of the share capital. First directors, (who are to number not less than two nor more than five) are Sir M. Evans, Bart. and Dr. S. Aisinman. Qualification, 1,000 shares. Registered office, 27, Old Jewry, E.C.

KAZAN OILFIELDS, LTD.

ONE of the latest and most important company registrations is that of the Kazan Oilfields, Ltd., which was incorporated with a capital of £350,000 a few weeks ago. The brief details of the registration were announced at the time in the REVIEW, but now we are in a position to publish further information regarding this interesting proposition.

The situation of the Kazan fields is known to our readers inasmuch as on several occasions we have referred to the petroleum and bitumen deposits of the district. Geographically the Kazan province is eminently favourably situated, for when its petroleum industry is established upon a commercial scale it will have a very decided advantage over either Grosny or Baku, by reason of its central situation to the great consuming markets of the Russian interior, while the fact that the Volga traverses the Kazan province is another decided advantage.

The total area of lands which this new company has acquired cover an area of approximately forty-three square miles, and upon this area an appreciable amount of exploitation work has already been carried out, three bore-holes being at present in course of drilling. It is anticipated that in the near future, when the Kazan Oilfields, Ltd., gets thoroughly to work, a great amount of drilling work will be done over the whole of the properties, and arrangements made for the storage and disposal of the oil, for it is expected that this will be struck in commercial quantities at the shallow depth of several hundred feet.

The Kazan field has been visited by many well-known geologists and engineers, and it is spoken very highly of by all who have studied it.

We trust to be able to furnish our readers with additional interesting information in connection with the operations of the Kazan Oilfields, Ltd., at an early date.

The company has secured the co-operation of a strong board of directors, while a local board will supervise operations on the fields.

Publicity.—All enterprising firms advertise in the REVIEW. Shall we quote you Rates? Send a postcard to—Advertisement Manager, REVIEW Offices, 45, St. Mary Axe, London, E.C.

THE BRITISH AUSTRALIAN OIL COMPANY, LTD.

Details of the Assets.

THE liquidator of the British Australian Oil Company, Ltd., announces that the new company has already been registered, and the certificate authorising the company to commence business has been issued by the Registrar of Joint Stock Companies. The capital is 300,000 Ordinary shares of £1 each—£300,000, and Six per Cent. Participating Debenture Stock—£150,000. The debenture stock in the new company will be allotted to the debenture stockholders in exchange for their debenture stock in the old company. The assets of the company comprise: 1. Freehold and leasehold property in Australia, comprising upwards of 19,000 acres, and estimated by the consulting engineers to contain in the proved portion 2,500,000 tons of shale. 2. Crude oil works at Murrurundi, New South Wales, together with the necessary condensers, scrubbers, exhausters, steam boilers, workmen's houses, workshops, etc., as also a sulphate of ammonia recovery plant, together with the necessary railway siding connecting the works to the Government railway. 3. Oil refinery at Newcastle, New South Wales, comprising four benches of stills with the necessary condensers, as also oil-washing and bleaching tanks, freezing plant, storage tanks, etc., together with the necessary steam boilers, workshops, cooperage, can and box-making factory, etc. Also the necessary railway siding connecting the works to the Government railway. 4. Brick works at Murrurundi, consisting of open-type kilns with the necessary pan-mill and clay-crushing plant. 5. Stocks of oil and unrefined shale, office furniture and fittings, book debts, and cash in hand, tank wagons, etc. 6. Aerial tramway from the mine to the crude oil works at Murrurundi.

These assets, according to the old company's last published balance sheet, represent an expenditure in cash and shares of over £370,000. The cash provided by the scheme of reconstruction amounts to £75,000. This sum, after discharging the liabilities of the old company and the costs of reorganisation, should, in the opinion of the board of directors of the new company, be ample, after setting aside £25,000 for cash working capital, to complete the proposed extensions of the works and plant, including the bringing in of the second bench of retorts, and to provide £5,000 for development of the shale mine.

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FOREIGN CAPITAL IN THE MID-CONTINENT FIELDS.

LIST OF COMPANIES INTERESTED IN OKLAHOMA.

By Mr. H. G. JAMES.

(Concluded from page 514.)

DISTRIBUTION of the production of the field as previously indicated follows:—

	Barrels.
Prairie Oil and Gas Company runs	113,930
Gulf Pipe Line Company runs	21,200
Texas Company runs	14,000
Independent refineries	50,000

Total 198,000

President O'Neil, of the Prairie, states that the production of the field is increasing rapidly. So much oil is coming, when it was believed the field had reached its zenith, and the development of 35,000 to 40,000 barrels a day in the new Boston pool, in the Osage, is so certain that Mr. O'Neil would not venture a guess as to the future. His company expects to complete its new line to the Wood River refinery at Alton, Illinois, in December. This will take care of 20,000 barrels of crude a day, but that will only be about the amount the Prairie is now putting in storage, and by that time the company expects to have considerable additional oil from the Boston pool for storage. The Texas Company is taking all the oil it can handle; the Gulf Pipe Line Company has its capacity taxed; indeed, the Prairie is giving aid to both of these companies already; the refineries are handling all they have capacity for, and there is now an over-production of kerosene and gasoline. In view of these facts, it is estimated the market will be doing well to remain steady. This is as much as pipeline men will say they expect of it.

Reverting again to foreign investments, it may be added that a number of other companies have been incorporated abroad for the purpose of acquiring Mid-Continent acreage and production. "The Oil-fields of Oklahoma Company," an English concern, was registered in April, 1911, to acquire and deal with leasehold oil-bearing properties situate at Sulphur, Oklahoma. An option was also held upon a partially developed 190 acres in the Alluwe field. The capitalisation of the Company was \$1,000,000.

The Alluwe Oil Syndicate, Ltd., was organised in London in 1911 to purchase an option from H. F. Mitchell on property in the Alluwe shallow sand district. This company floated the Kansas-Oklahoma Oil Company, which became quite active in production.

The Tulsa Oil Company, which is a part of the Union, was registered June 28th, 1912, to acquire royalties in the North Glenn pool extension, together with 7,500 acres in the Haskell district. Consideration, \$135,000. Prof. C. N. Gould, State geologist of Oklahoma, reported on these properties. The output for nine months to March, 1913, was 74,495 barrels, with a working profit to December, 1912, of \$29,845.

The Premier Petroleum Company was registered in Maine in 1910 to acquire 3,660 acres in Oklahoma.

The entire property was later transferred to the Petroles d'Oklahoma for 1,000,000 francs. Capitalisation of the company was \$3,000,000. Profits to June 30th, 1912, were \$40,000.

The Paynee Cleveland Oil Fields, Ltd., was organised in London in January of the present year, capitalised at \$375,000, bond proposition, to acquire from H. F. Jackson the leases of two plots aggregating 320 acres in Pawnee county, Cleveland district. The consideration was \$25,000, payable \$2,500 in cash, \$5,000 cash or preferred shares, \$12,500 in fully-paid ordinary shares, and \$5,000 in cash payable out of the sale of one-half of the oil produced.

In February of this year the Glenn Pool Oil Company, Ltd., was organised in London, and capitalised for \$50,000 for the purpose of acquiring property in the Glenn pool.

There may be other properties and companies in this field under foreign capital unknown to the writer, but it is believed that this list embraces practically all. There are constant inquiries for additional production by European concerns. Every owner of production believes that the market is going to advance and he is holding to his stuff with an idea of even better prices than prevail to-day. The Prairie, Gulf and Texas companies have practically quit buying production on account of the prohibitive prices. Foreigners are offering pretty high rates per barrel, but they are not sufficient. Very few, if any, properties are being offered that present opportunity for future drilling at less than \$800 to \$1,000 a barrel. Properties offered at less than \$800 a barrel are either drilled up or have only a few locations left. Producers expect to see production in this field go to \$1,200 and \$1,500 a barrel.

So far no foreign capital has invested in Kansas, but as the production of this field is creeping up and paying properties are being developed, it is not unlikely that this State will next be invaded. The output of Kansas has now reached almost 10,000 barrels a day, or the highest in its history, all other writers to the contrary notwithstanding.

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TRIAL TRIP OF THE S.S. "EBURNA."

THE s.s. "Eburna" has just successfully run her trials at sea. She is a steel two-deck tank steamer, built for carrying oil in bulk. Her owners are the Anglo-Saxon Petroleum Company of London, of which the head is Sir Marcus Samuel, Bart. It will be remembered that some six or seven years ago this company, together with the Batavian Petroleum Company in Holland, took over and consolidated the whole of the assets of the Shell Transport and Trading Company and of the Royal Dutch Company, together with their subsidiary business.

The "Eburna" is the sixth ship that Messrs. Swan, Hunter & Wigham Richardson, Ltd., have built in recent years for these owners. She is constructed on the Isherwood system of longitudinal framing, and is designed to carry somewhat over 7,000 tons deadweight. The leading dimensions of the ship are 392 ft. in length,

and 52 ft. 9 ins. in breadth. The holds for carrying oil are separated by oil-tight bulkheads running both transversely and longitudinally, while a cofferdam at each end isolates them from the rest of the ship. The pump room, containing two steam-driven oil pumps, is placed amidships and extends from the bottom of the vessel to the upper deck. The main engines and boilers have been built by the Wallsend Slipway & Engineering Company and are placed in the after-end of the vessel, where the engineers also have their quarters. The seamen and firemen have accommodation in the forecastle. In the bridge-house amidships are placed the cabins for the captain and officers. During the trial trip off the mouth of the River Tyne everything worked without a hitch and to the satisfaction of all concerned. The owners were represented by Mr. Gould and by Mr. C. Zulver, their marine superintendent.



The s.s. "Eburna" on her Trial Trip.

TRIAL TRIP OF THE "SAN URBANO."

THE large screw petroleum steamer "San Urbano" was taken to sea for trial trip on Friday last. The vessel was built at the Walker shipyard of Messrs. Sir W. G. Armstrong, Whitworth & Company, Ltd., to the order of the Eagle Oil Transport Company, Ltd., of London. The chief dimensions of the vessel are: Length overall, 432 ft.; breadth, extreme, 54 ft. 6 ins.; depth moulded, 32 ft. 8½ ins. She is capable of carrying a total deadweight of 9,400 tons on a moderate draft of water. The vessel is built on the "Isherwood" system, to Lloyd's highest class under special survey. She is fitted with a poop, bridge and forecastle, and is rigged as a two-masted schooner, the masts being telescopic for the Manchester Canal. The captain and officers' accommodation is on the bridge; the engineers' in the poop; seamen's and firemen's in the forecastle. There is a large installation of pumps and oil piping throughout the vessel for dealing expeditiously with the cargo, and a system of heating

coils is arranged in all the oil compartments. The deck machinery consists of a steam windlass, three steam winches, steam steering gear; and the vessel is fitted throughout with a complete installation of electric light. The propelling machinery is of the quadruple-expansion type, manufactured by the Wallsend Slipway & Engineering Company, Ltd., Wallsend-on-Tyne. The cylinders are 24, 35, 50 and 73 by 51 in. stroke, steam being supplied from three cylindrical multitubular boilers, 15 ft. 6 ins. diameter by 11 ft. 9 ins. long, with a working pressure of 220 lbs. On the trial trip the machinery gave every satisfaction, and a mean speed of 12 knots was attained. Amongst those present on the trial were Major Adam, Captain Cox, the Owners' Marine Superintendent, Mr. Smart, Mr. H. Barringer, and Mr. Bradney (under whose supervision the vessel has been constructed). Mr. Arthur Gulston, and Mr. George Armstrong, representing the builders, and Mr. Campbell, representing the engine-builders.

THE BIBI EIBAT OIL COMPANY, LTD.

A Highly Satisfactory Position.

MR. R. M. ALLAN, the secretary of the Bibi Eibat Oil Company, Ltd., has, by order of the board, issued the following interesting circular to the shareholders, under date of the 15th inst.:

"Six months having elapsed since the date of the statutory meeting, I am instructed by the directors to place you in possession of the latest information with regard to the position and prospects of our undertaking.

"It is satisfactory to be able to record that the weekly production, which, for reasons already explained, had fallen in September as low as 65,933 poods (1,063 tons), has during the past two months marked a steady recovery and has now reached 103,800 poods (1,674 tons). This improvement is due to the systematic and careful repair of the damaged wells referred to at the statutory meeting.

"In the case of well No. 11, which it is intended to carry to the deepest oil strata yet discovered on the Bibi Eibat field, work has been considerably impeded by delay in the manufacture and delivery of the special tubing which is being used. The work of deepening is, however, now proceeding, but progress is very slow owing to the difficult nature of the ground encountered. The latest depth reported is 403 sageses (2,821 ft.), and the manager anticipates that the oil source will be reached at about 430 sageses (3,010 ft.).

"Owing to the delay of the Russian Government in confirming the recommendations of the commission regarding the reduction of royalties, no new wells have yet been authorised by the board.

"A zayafka, or prospecting licence, has been acquired by the company on the new oilfield to the south-east of Grosny, and arrangements are being made for a geological survey of the land, preparatory to the selection of the otvod (10 dessiatines, or 27 acres) to which the company is entitled. The zayafka is adjacent to the Tchermoieff and Belik estates, which have recently come into such prominence, and is subject to royalties of $3\frac{1}{2}$ copecs per pood, which at the present price of oil ($43\frac{1}{2}$ copecs per pood) is equal to only 8 per cent. of the net production.

"During the labour troubles in Baku last August, when the price of oil reached an unprecedented figure, work was carried on without interruption on the company's properties, timely concessions having been made to its workmen.

"The latest price of crude oil at Baku is $43\frac{1}{2}$ copecs per pood (£2. 17s. per ton), and as a result of the favourable contract made for the disposal of the output, the company has, notwithstanding the comparatively low production, been earning substantial profits throughout the year.

"It is proposed to hold the first ordinary general meeting early in May, when the accounts for the period from the incorporation of the company down to the 31st March, 1914, will be submitted, and the directors hope to declare a dividend. It was originally intended to hold the meeting in the autumn of 1914.

"The shareholders will be gratified to hear that the company is in receipt of periodical remittances from the Russian company on account of profits. All the debts of the old company and the expenses of the reconstruction have now been discharged, and the liquid resources in London at the present time amount to £112,340. 1s. 10d."

AMERICAN. NOTES.

Californian Oil Profits.—It is estimated that the profits of the Californian Petroleum Company for the present year will be far in excess of \$2,000,000.

New Oil Corporations.—Among the new companies recently registered may be mentioned the following:—The Invader Oil Company, capital \$250,000; Tampico Oils, Ltd., capital \$50,000; Continental Oil and Transportation Company, capital \$500,000; and several smaller companies.

Well Statistics.—In the Kansas-Oklahoma fields there are now over 33,000 producing oil wells, while in the Texas-Louisiana territories there are over 18,000. Wells producing the high-grade Pennsylvanian oil number 5,000, and in Illinois there are a similar number of producers.

A New Oklahoma-Texas Pipeline.—It is announced on the authority of Mr. David C. Stewart, the vice-president of the Magnolia Petroleum Company, that the concern is to lay a trunk oil pipeline from the Oklahoma fields to Texas, the total distance being 230 miles.

Oklahoma Gasoline Plants.—At the present time nearly a dozen gasoline extraction plants are being installed in the Oklahoma fields, and when these are in full work nearly 7,000,000 gallons of natural gas will be treated daily. Inasmuch as the average amount of gasoline extracted from casing-head gas is two and a quarter gallons per 1,000 cubic feet of gas in Oklahoma, it will be seen that the combined daily capacity of these new plants will be nearly 15,000 gallons.

A Gusher in the Humble Field.—The Humble field is living beyond its name. For a few days ago the Producers' Oil Company finished its No. 11 well, named Carroll, which commenced yielding over 10,000 barrels per day. The well has now settled down to a daily output of about 6,000 barrels. The well was finished in the deep sands, the drill going down 2,700 ft. The bringing in of the well has naturally stimulated activity in the field.

ROUMANIAN NOTES.

Exportation.—Exportation has now become normal. During October it amounted to over 90,000 tons, and if it maintains at the same level during the last two months of the year, the total exportation for the year will attain a figure of 1,000,000 tons.

Production.—The general production, which during the past week registered a considerable decrease owing to the reduction in the exploitation of the eruptive and productive wells at Moreni, caused by fire, has now again become normal, and is estimated at 5,000 tons a day. There is bound to be a considerable increase in the production in the very near future.

Difficulties in Transport.—There are still great difficulties in the transport, and these have become accentuated during the last few days. Producers have always complained of the insufficiency of seven daily trains to satisfy all their demands, and notwithstanding this fact, the Administration of Railways has reduced the total number of trains to six daily, and the producers are consequently not able to fulfil their engagements.

Prices.—Prices for crude oil are very firm, and exceed 8 francs per 100 kgs. of Bushtenari type. These prices continue, notwithstanding that the large refiners abstain from buying oil at the present time, but the small refiners, who have no production of their own, are quite willing to pay high prices in order to be able to work at their full capacity. The prices of products on the interior market are unchanged. The demand for residuals is especially good.

Activity in the Fields.—The well 8P Romana-Americana has recommenced its powerful eruptions, yielding 600–700 tons a day, and the well No. 1 Colombia is also ready to resume its eruptions. Well No. 3 Coneordia, which has recently passed to the Colombia, is now in full work and promises splendid eruptions. The Astra Romana has reconstructed all its productive and eruptive wells at Moreni, and has struck a new well there—viz., well No. 12 A.R.—which yields 200 tons a day by eruptions. Well 302 of the Orion Company at Gropi has increased its production to 250 tons a day. The well 28 Anglo-Roumanian Petroleum Company at Bordeni continues to give by intermittent eruptions 70–80 tons a day.

The Mexican Petroleum Industry during 1912.

*An Important
Chapter from -
Dr. D. T. Day's
Annual Report.*

By Mr. E. DE GOLYER.

THE increase in the production of crude petroleum in the Republic of Mexico during the year 1912 over the production during the preceding year was the result of increased facilities for the transportation of oil. As during the preceding year, the discovered fields were capable of a production greatly exceeding the capacity of the transportation systems.

Several important wells were "brought in" during the year, proving the extensions of fields already discovered, and at Chila-Salinas proving a new field. No appreciable amount of this new production reached the market, however, and at the close of the year the amount of oil being produced in Mexico was still controlled by transportation facilities, or rather curtailed by a lack of them. As during the preceding year, 95 per cent. of the Mexican output was both produced and marketed by two sets of interests: (1) The Pearson interests, controlling the Compañía Mexicana de Petróleo "El Aguila," S.A., a producing, refining and selling company; the Mexican Eagle Transportation Company, with its fleet of oil-tankers (built or building) of 200,000 tons cargo capacity; and the Anglo-Mexican Petroleum Products Company, an export sales company; and (2) the Doheney interests, controlling the Mexican Petroleum Company, (Ltd.), of Delaware, owners of the Mexican, Huasteca, Tuxpan, and Tamiahua petroleum companies, producers and marketers, and the Petroleum Transport Company, of Maine, with a fleet of oil-tankers of 37,000 tons capacity under construction. The Pearson group covers every phase of the industry from exploration and exploitation of oil through transportation and refining to sale of refined products to the ultimate consumer. The Doheney group covers all phases of the industry except refining and sale to the ultimate consumer. Some refining is carried on by this group, but only to separate the lighter oil and manufacture asphalt.

Most of the oil produced by the Pearson group is pumped through an 8-in. line from Potrero del Llano to Tuxpan Bar, a distance of 33 miles, and most of the export shipments are made from this port. Regular shipments are also made to distributing depots at Vera Cruz and Coatzacoalcas, from which points railroads are supplied with fuel and shipments of fuel oil are made to the interior. Shipments are made to the refinery at Minatitlan from Coatzacoalcas.

The development of the loading arrangement at Tuxpan has been very successful and has been watched closely by persons interested in the transportation of oil. The ships lie in the open roadstead at a distance of 1 to 2 kilometres from the shore. The oil is pumped through submarine lines and received into the ships through flexible hose which is attached to the end of the lines. Ships of any draft can load in this manner. A great many difficulties were encountered in laying the first submarine lines, but a scheme was developed whereby the lines were laid on the shore and pulled

into position in the sea by powerful tugs. By the end of 1912 this station was loading more oil than was being loaded in the port of Tampico for marine shipment.

The oil produced at Furbero by the Oil Fields of Mexico, Ltd., an affiliated company, is also received at the Tuxpan Bar station by the "Aguila" Company. It is pumped through a 6-in. line from Furbero, a distance of 90 kilometres. Oil is also handled by a 6-in. pipeline from Potrero del Llano, Tierra Amarilla and Tanhuíjo to Tancochia on the Tamiahua lagoon, from which point it is barged across the lagoon to Bustos, and from there pumped to Tampico. An 8-in. line from Tanhuíjo to Tampico is under construction and a large refinery is being built at the latter point by the same interests.

The Pearson interests are the sole producers of oil in the Isthmus of Tehuantepec. The oil is sent by pipeline and water transportation to the Minatitlan refinery.

Oil is produced by the Doheney interests at the Jnan Casiano field of the Huasteca Petroleum Company, and at the Ebano-Chijol field of the Mexican Petroleum Company. Casiano oil is pumped to Tampico through a double 8-in. line. At that port foreign shipments of oil are made, and deliveries to the refinery of the Waters-Pierce Oil Company and to the railways are also made. Domestic shipments of crude oil are made from the same port. Some of the oil produced at the Ebano-Chijol field is partly distilled, asphalt being manufactured and the tops sold to the Waters-Pierce refinery. The remainder of the Ebano oil is delivered to the railways for use as fuel.

Aside from the fields controlled by these two interests, there are three commercially important fields in Mexico which have been developed to the present time, the Topila, the Panuco, and the Chila-Salinas fields.

The condition of the Topila field is not very promising at present. During the latter part of 1912 it suffered from an invasion of salt water, and as the year closed the field was not capable of a production of more than 500 barrels a day. The producing companies in the Topila field are the East Coast Oil Company (Southern Pacific), Mexican Fuel Company (Waters-Pierce), Topila Petroleum Company (Spellacy), and J. R. Sharp (Producers' Oil Company). Approximately 1,500,000 barrels of oil have been produced in this field most of it being purchased by the Tampico Company (Texas Company). The oil is barged to Tampico via Panuco River. Part of the oil produced has been purchased by the Waters-Pierce Oil Company. An 8-in. pipeline is being built by the East Coast Company from Tampico to Panuco via Topila. With the exception of a small amount of oil locally used, the Topila oil has been exported.

The first important well in the Chila-Salinas field was "brought in" during the early part of the year by

the Tampico Oil, Ltd., and more successful wells have been drilled and an 8-in. line laid to Panuco River, although no deliveries had been made up to the end of year. This field is controlled in part by the Mexican Fuel Oil Company (Producers Oil Company), but mostly by the Tampico Oil, Ltd.

More development is taking place at Panuco than in any other Mexican field, though only small deliveries have thus far been made. The oil which has reached the market is from the wells owned by the Vera Cruz-Mexican Oil Syndicate, Ltd. (Hammond-Mestres). It is transported by barges on the Panuco River to Tampico. The producing companies at Panuco are the East Coast, the Vera Cruz-Mexican, the Freeport-Mexican, the National, and the Tampico-Panuco Oil Fields. The East Coast 8-in. line, above referred to, should be completed and afford an outlet for the oil from this field during 1913.

Of the crude oil produced during 1912, 6,675,768 barrels were exported, all of it going to the United States, with the exception of 50,000 barrels to Porto Rico. Exportations of refined products were made from the Aguila refinery at Minatitlan throughout the year. The bulk of foreign shipments has been made in tank steamers flying a foreign flag, only the "San Antonio," "San Bernardo," "San Cristobal," of the Mexican Eagle line, and the barge "Spindle-Top" of the Mexican Fuel Company (Waters-Pierce) being under the Mexican colours. The shipments for the most part have been in vessels owned or chartered to such foreign interests as were receiving oil, though this will change during the coming year, with the completion and delivery of their fleets to the Mexican Eagle and the Petroleum Transport companies.

Exploratory drilling has been carried on in the Tampico region at various points within an area extending from a point 95 miles north of Tampico to a point 105 miles south of the same port, and in its widest part from the coast to a point 65 miles west of Tampico. During the year, exploratory drilling in the unproved territory was carried on as follows:—

The Texas-Mexican Asphalt and Petroleum Company continued drilling at Chapopote on the Hacienda San José de las Rusias, about 65 miles north of Tampico. The American International Fuel and Petroleum Company finished its seventh well on the Los Esteros lease, and drilling was suspended on account of unfavourable results. The Mexican Petroleum Company drilled a well near Auza on the Tampico-San Luis branch of the National Railways: the results were unfavourable. Sawyer & Sill commenced a well just east of the Chila station on the same line; this well was drilling at the end of the year. The Dos Banderas Oil Company continued drilling on the west shore of the Pueblo Viejo lagoon, near Tampico. The Mexican Associated Oil Company continued drilling at El Barco, near Panuco River. The Mexican Fuel Oil Company (Producers Oil Company) drilled several wells at Caracol, one in the Chila-Salinas field being successful. The Scottish-Mexican Oil Company completed wells at Topila, Mirador, and Ganahl on Panuco River; all failures. The Tampico Petroleum Company drilled several unsuccessful wells at Limon, near the Ebano field. The Gulf Coast Corporation continued drilling at Tampalache, near Panuco, but was unsuccessful. The Compañía Mexicana de Petróleo "El 'Aguila," S.A., commenced several new wells in the San Pedro field. The Compañía Mexicana Perforadora drilled wells at El Hijo and La Mora on Tempoal River, but was

unsuccessful. The Compañía Mexicana de Petróleo "El 'Aguila," S.A., drilled two wells near Tempoal, but was unsuccessful. The Huasteca Petroleum Company drilled two wells at San Miguel near San Geronimo, but was unsuccessful. The Zaleta Mar and the Mexican Eastern companies began wells near Juan Casiano. The Electra Petroleum Syndicate drilled an unsuccessful well near Rancho Abajo. The Vera Cruz-Mexican Oil Syndicate drilled wells at Tinaja and San Marcos, but was unsuccessful.

The Compañía Mexicana de Petróleo "El 'Aguila," S. A., continued drilling at San Marcos, Tierra Amarillo, and Alazan, and brought in small wells at San Marcos, Tanhuijo, and Tierra Amarillo, and a 15,000-barrel well at Alazan. The last well proved the extension of the Porero field a mile to the north. Operations were commenced by the same company at Tlacolula and Tierra Blanca, but no wells had been finished at the end of the year.

The Huasteca Petroleum Co. continued operations at Cerro Azul.

The Standard Oil Co. of Mexico completed a well at El Gallo. Results unfavorable.

Operations continued on a small scale at Furbero by the Oil Fields of Mexico Co., but only partly favorable results were obtained. At the end of the year preparations were being made to resume operations on a large scale.

Although the production of the fields of the Tampico region has been great enough to cause Mexico to be third in importance among nations in the production of crude petroleum, a very small number of wells had been drilled up to December 31st, 1912, when 252 wells had been drilled in the region since the beginning of the industry. Of these wells, 64 were actually producing, and 90 per cent. of the production of the year had come from less than 5 of these producing wells. On the same date 42 wells were drilling, 12 rigs were building, and 16 locations had been laid out.

The most promising feature of the year in the Tampico region was the new capital which entered the field. A great amount of land was leased, and preparations for drilling were made by several new companies.

At the end of the year there were approximately 89 companies organized for operation in the Mexican fields. Fifty-five of these companies are American, 21 Mexican, and 13 British. The various companies represent an approximate investment of \$175,000,000 (United States currency) distributed by nationalities with regard to capital investment as follows: American, \$97,500,000; British, \$75,000,000; and Mexican, \$2,500,000.

The greater part of this capital is invested in leaseholds of oil property.

Geologically, the oil of the Tampico region occurs in the Oligocene, Eocene, and Cretaceous formations, the oil-bearing rock being for the most part a porous limestone.

On the Isthmus of Tehuantepec, the 'Aguila Co. continued operations at Ixhuatlan, Tecuanapa, and Soledad, fields being developed at each of these places. The old San Cristobal field continued producing. Exploration was carried on by the same company at La Reforma, in the State of Chiapas. No further work was done by the Anglo-Mexican Oil Fields (Ltd.), at its camp near Pichucalco, Chiapas.

Geologically, the oil-bearing rocks of the Isthmus region are of Pliocene and Pleistocene age. The formation in which the oil occurs is usually a true quartz sand.

Exploratory operations were also carried on in the northern part of the State of Sonora and near the city of Vera Cruz, but no favourable results were obtained.

On July 1, the Government put into operation a tax of 20 cents (Mexican currency) per ton on all petroleum produced in the Republic. As there is a very high import duty on crude petroleum, the Government occupies the unique position of both protecting and taxing heavily its youngest important industry.

PETROLEUM IMPORTS INTO THE UNITED KINGDOM DURING OCTOBER.

THE SHIPMENTS INTO VARIOUS PORTS.

The various shipments of petroleum products into the U.K. ports during October are given in the following table. The total imports for the month were 43,234,350 gallons, or 2,700,370 gallons more than in September.

PORT.	Illuminating.	Lubricating.	Residuals.	Gas Oil (Solar).	Benzine.	Fuel Oil.	Other Descriptions.
Aberdeen	—	5,450	—	—	—	—	—
Barrow	—	—	—	—	945,000	59,250	—
Belfast	7,640	5,290	—	652,500	—	—	—
Boston	—	1,600	—	—	—	—	—
Bristol	1,207,310	141,810	—	—	867,000	—	2,600
Cardiff	—	6,610	—	—	—	—	—
Cork	—	330	—	—	—	—	—
Dublin	704,640	40	—	—	—	—	—
Dundee	1,040	520	—	—	—	—	—
Glasgow	—	257,980	—	—	—	—	—
Gloucester	—	2,600	—	—	—	—	—
Goole	—	40	—	—	—	—	—
Grangemouth	—	9,470	—	—	—	651,800	—
Granton	—	—	—	—	868,000	—	—
Grimsby	—	2,680	—	—	—	—	—
Hartlepool	—	1,440	—	—	—	—	—
Harwich	—	2,250	—	—	—	—	—
Hull	2,590,450	175,150	—	—	—	—	—
Leith	26,380	27,820	—	—	—	—	—
Limerick	1,391,500	40	—	—	—	—	—
Liverpool	2,267,840	799,580	25,110	1,197,460	50,400	—	25,610
London	7,892,250	1,658,030	19,002	3,953,190	6,991,120	2,438,070	4,400
Manchester	2,415,800	582,150	—	1,202,570	—	—	4,000
Middlesbrough	—	200	—	—	—	—	—
Newcastle	—	10,960	—	—	—	—	—
Plymouth	—	520	—	—	—	—	—
Southampton	—	240	—	—	—	—	—
Sunderland	967,310	—	—	—	—	—	—
Swansea	—	12,280	—	—	—	—	—
Totals	19,472,160	3,705,090	44,130	7,105,720	9,721,520	3,149,120	36,610

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HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

November 21st, 1913.

The Refined Petroleum is unaltered in price, being for:—Roumanian, 8d.; Russian, 8½d.; Galician, 8¼d.; American, 8½d.; American Water White, 9½d.

LUBRICATING OILS.

The official quotations in barrels per ton are as follows:—

- No. 1 Russian, £12. 2s. 6d.
- No. 2 Russian, £10. 17s. 6d.
- American pale, from £9. 12s. 6d.
- American dark, from £11. 2s. 6d.
- American filtered cylinder, from £13. 12s. 6d.

FUEL OIL.

The market price is 70s. per ton, in bulk, ex wharf.

GREASE-MAKING OIL

is quoted 80s. per ton, in bulk, ex wharf.

MOTOR SPIRIT.

1s. 9d. per gallon is the retail price in London for the best quality, and 1s. 7d. per gallon for the second quality.

TURPENTINE.

Considerable business continues to be concluded in American Turpentine, and the price is gradually rising. The spot price is 32s. 6d.; December, 32s. 7½d.; January/April, 33s. 1½d.; and higher prices are asked for still further forward deliveries.

LIVERPOOL.

November 21st.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8½d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well.

INDIA.

BOMBAY, October 26th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoo's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
" Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, November 20th.

Refined, in cases, is quoted at 11.25; Standard White, 8.75; Credit balances, 2.50.

PHILADELPHIA, November 20th.

Standard White is quoted at 8.75.

GERMANY.

HAMBURG, November 18th.

The petroleum prices remain unchanged. The demand for kerosene begins to be lively, that for benzine decreasing. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, November 18th.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 43½–44 copecs per pood spot. Kerosene, 57–58 copecs. Residuals, 42–42½ copecs.

ROUMANIA. November 18th.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including	Francs.
pipe-line charges, per 100 kgs. Bushtenari	8.00–8.15
" " " Moreni	7.00–8.00
" " " Tzintea	5.50–6.25
" " " Policiori	5.00
" " " Bana	9.50–10.80
Paraffin	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	26.00–26.50
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	18.00–18.50
Residuals, f.o.b. Constanza	...	7.00–7.50
Gas Oil...	...	8.00

AUSTRIA. November 18th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 32.50 kronen at Oderberg. Benzine, 740/750, 26 kronen; 750/760, 23 kronen, 760/770, 21 kronen, at Oderberg. Gas oil, 7.30 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, London, E.C., report under date November 20th as follows:—

There is little change in the position and prices are steady at last week's rates, viz:—

1c 18¾×14	124 sheets	110 lbs.	13/3 to 13/4½ per box.
1c 20×10	225 "	156 "	18/9 to 18/10½ "

F.o.b. Wales. Tin lining and iron hooping extra.

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Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

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FOR THE WEEK ENDED NOVEMBER 17TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.	DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
Nov. LONDON—					Nov. HARWICH—				
11	Anglo-American Oil Co.	Gas	1,068,160	Philadel.	11	Great Eastern Railway	Lub.	300	Antwerp
11	Vacuum Oil Co.	Lub.	5,180	"	11	"	"	30	"
11	G. W. Sheldon & Co.	Lub. Gr.	320	"	11	"	"	360	"
11	Langley, Smith & Co.	Lub.	1,330	New York	13	"	"	2,650	Hamburg
11	Produce Brokers Co.	"	7,840	"	13	"	"	80	Antwerp
11	London Oil Storage Co.	Lub. Gr.	2,840	"	15	"	"	440	"
11	Woollett, Airey & Co.	Lub.	80	"	HULL—				
11	L. Freeland	Lub. Gr.	710	Antwerp	11	Hull & Netherlands Steamship Co.	"	90	Rotterdam
11	W. H. Müller & Co.	Lub.	30	Rotterdam	11	Wilson's & N. E. Railway	"	240	Hamburg
11	S. Capon	"	3,400	Fiume	11	T. Wilson, Sons & Co.	"	30,240	New York
12	Port Authority	"	1,240	Hamburg	13	W. Gilyott & Co.	"	3,600	"
12	Vacuum Oil Co.	"	55,650	New York	13	T. Wilson, Sons & Co.	"	640	Bergen
12	Mercantile Lighterage Co.	"	36,200	"	13	Wilson's & N. E. Railway	"	4,080	Hamburg
12	Worthington & Boler	"	2,000	"	13	"	"	4,560	Antwerp
12	Anglo-American Oil Co.	"	2,000	"	15	T. Wilson, Sons & Co.	"	1,200	Stettin
12	A. E. Smith	"	480	Marseilles	MANCHESTER—				
12	Port Authority	"	2,520	Hamburg	11	Vacuum Oil Co.	"	250	Hamburg
12	E. G. Boize	Lub. Gr.	150	"	11	J. T. Fletcher & Co.	"	480	Ghent
12	Asiatic Petroleum Co.	Benzine	5,000	Rotterdam	11	"	"	160	Antwerp
13	British Petroleum Co.	Lamp	833,500	Kustendje	12	McLiners, Ltd.	"	5,160	Philadel.
13	R. T. Lucas & Co.	Lub. Gr.	270	New York	12	Worthington & Boler	"	10,370	Hamburg
14	Page, Son & East	Lub.	600	Antwerp	12	D. Currie & Co.	"	3,420	Philadel.
14	L. Freeland	Lub. Gr.	70	"	12	McLiners, Ltd.	"	5,560	"
15	Bramwell, Fern & Co.	Lub.	1,277	Philadel.	13	Meade-King, Robinson & Co.	Gas	883,000	"
15	Snowdon, Sons & Co.	"	2,580	"	13	"	Lub.	2,080	Hamburg
15	Motor Owners' Petrol	Benzine	420,000	"	13	"	"	46,720	Philadel.
Combine					13	Liverpool Storage Co.	"	23,320	"
17	Bowring Petroleum Co.	Lub.	2,645	Philadel.	13	"	M. Colza	1,340	"
17	Valvoline Oil Co.	"	4,000	New York	13	Bramwell, Fern & Co.	Lub.	20,920	"
17	F. Chiesman & Co.	"	2,162	"	13	C. H. Morton & Son	"	2,720	"
17	Mordaunt Bros.	"	4,800	"	13	Worthington & Boler	Turps Sub.	2,000	"
17	Produce Brokers Co.	"	8,400	"	13	Anglo-American Oil Co.	Fuel	172,740	Baton Rouge
17	J. Thompson	"	791	Riga	14	Bramwell Fern & Co.	Lub.	14,490	Philadel.
17	Port Authority	"	4,376	Hamburg	14	Worthington & Boler	"	820	New York
17	E. G. Boize	Lub. Gr.	220	"	14	British Petroleum Co.	Gas	1,137,000	Port Arthur
17	"	Lub.	85	"	15	Anglo-American Oil Co.	Lub. Gr.	5,400	Philadel.
LIVERPOOL—					15	D. Currie & Co.	"	2,940	Hamburg
11	White Star Line	"	4,000	New York	17	J. S. Holt & Mouley, Ltd.	Lub.	204	Philadel.
11	W. B. Dick & Co.	"	5,000	"	17	"	Lub. Gr.	82	"
11	Burnaby & Chantrell	Lub. Gr.	2,740	N. Orleans	17	Crew, Levick & Co.	Lub.	10,428	"
11	"	"	2,610	Baltimore	17	Liverpool Storage Co.	"	1,000	New York
11	A. Hopps & Son	Lub.	21,280	"	17	"	"	20,379	"
11	"	M. Colza	2,600	"	17	Lamport & Holt	"	2,968	"
12	Meade-King, Robinson & Co.	Lub.	7,800	"	17	Diamond Lubricating Co.	"	2,750	"
12	Vacuum Oil Co.	Lub. Gr.	1,570	New York	17	Wells, Saye, Ltd.	"	200	"
12	Huxley & Co.	Lub.	1,090	"	17	W. W. Jones, Dooly & Co.	"	3,950	"
12	Anglo-American Oil Co.	Gas	545,420	Sabine	NEWCASTLE—				
13	Bowring Petroleum Co.	Lub.	420	Philadel.	11	Tyne-Tees Steamship Co.	"	3,840	Hamburg
13	Cunard Steamship Co.	"	2,400	New York	11	"	"	2,290	Antwerp
14	Huxley & Co.	"	1,550	Stettin	12	P. H. Matthiessen & Co.	"	480	Bergen
14	Pickford's	Lub. Oil	680	Hamburg	12	"	"	221	"
and Gr.					13	"	"	39	"
14	Meade-King, Robinson & Co.	Lub.	1,000	Philadel.	SWANSEA—				
14	Anglo-American Oil Co.	Gas	790,920	"	13	R. Turpin & Co.	"	1,200	New York
15	"	Lub.	29,400	"	SUNDERLAND—				
15	Bramwell, Fern & Co.	"	3,490	"	17	British Petroleum Co.	Gas	52,100	Hamburg
15	Worthington & Boler	"	6,800	"	DUNDEE—				
15	Vacuum Oil Co.	"	22,098	"	13	D. Alexander & Sons	Lub.	120	"
15	Crew, Levick & Co.	"	20,869	"	GLASGOW—				
15	"	M. Colza	4,220	"	11	Anchor Line	"	830	New York
15	"	Resid.	5,175	"	11	Clyde Shipping Co.	Lub. Gr.	80	Antwerp
15	W. B. Dick & Co.	Lub.	23,480	"	11	"	Lub.	1,800	"
15	American Line	"	12,320	"	17	Allan Bros. & Co.	"	45,900	Philadel.
15	"	Min. Gr.	100	"	17	Anchor Line	"	34,210	New York
15	"	Lub.	4,400	"	17	"	"	38,960	"
17	Vacuum Oil Co.	Lub. Resid.	13,400	N. News	LEITH—				
17	Meade-King, Robinson & Co.	Lub.	56,320	Philadel.	11	Jas. Currie & Co.	"	1,200	Hamburg
17	E. Harrison & Co.	"	8,000	"	14	"	"	1,800	"
17	Fellows, Morton & Clayton	"	2,267	"	14	"	"	4,800	"
BRISTOL—					BELFAST—				
11	British Petroleum Co.	Gas	468,000	Port Arthur	11	J. C. Pinkerton & Co.	"	180	Antwerp
12	H. Pritchard & Co.	Lub.	630	Antwerp	14	Anglo-American Oil Co.	Lamp	637,151	New York
13	F. F. Fox & Co.	"	1,000	Hamburg	14	J. C. Pinkerton	Lub.	200	Hamburg
14	Colthurst & Harding	"	200	"	14	"	"	220	"
14	Pickford's	Lub. Gr.	950	"	CORK—				
14	"	Lub.	590	Antwerp	13	P. Murphy & Co.	"	200	"
15	Asiatic Petroleum Co.	Spirit	437,000	Singapore	DUBLIN—				
CARDIFF—					12	Anglo-American Oil Co.	Lamp	1,195,400	New York
13	Furness, Withy & Co.	Lub. Gr.	240	Antwerp					9,448,897
GRIMSBY—									
10	J. Sutcliffe & Son	Lub.	590	Hamburg					
10	"	"	170	Antwerp					
11	"	"	50	Hamburg					
15	"	"	560	Antwerp					

The Petroleum Review Directory.

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Marshall, Sons & Co., Ltd., Britannia Works, Gainsborough.

BORING TOOLS.

Deep Well Tool and Boring Co., Ltd., St. Albans.
Galizische Karpathen Petroleum-Aktiengesellschaft,
Glinik Maryampolski, Galicia, Austria.

Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.
Oil Well Supply Co. (Pittsburgh), Dashwood House,
London, E.C.

Thom, John M., Patricroft, near Manchester.
Trauzl & Co., Vienna.

BUILDINGS.

Boulton & Paul, Ltd., Norwich.

CHEMICALS.

Spencer, Chapman & Messel, Ltd., 36, Mark Lane,
London, E.C.

DRILLING MACHINERY.

Deep Well Tool and Boring Co., Ltd., St. Albans.
Fraser & Chalmers, Ltd., 3, London Wall Buildings,
London, E.C.

Marshall, Son & Co., Ltd., Britannia Works, Gainsborough (Boilers and Steam Engines).

Oil Well Supply Co. (Pittsburgh), Dashwood House,
London, E.C.

Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.

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LAMP OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.

Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.

Homelight Oil Co., Ltd., 14, St. Mary Axe, E.C.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

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Bramwell, Fern & Co., London, Manchester and Liverpool.

Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.

Crew Levick Co., Irwell Chambers, W. Liverpool.

Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.

Mende, King, Robinson & Co., 22, Water Street, Liverpool, and Manchester.

The Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Work Co., Pittsburgh, Pa., U.S.A.

Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL BROKERS.

Benjamin & Gee, 31, St. Mary Axe, E.C.

Bramwell, Fern & Co., London, Manchester and Liverpool.

Lane & Macandrew, 26, Great St. Helen's, E.C.

OIL EXPORTERS.

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The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Works Co., Pittsburgh, Pa., U.S.A.

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OILS.

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Anglo-Maiko Corporation, Ltd., 7, Angel Court, E.C.

Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.

Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.

Crew Levick Co., Irwell Chambers, W. Liverpool.

Homelight Oil Co., Ltd., 14-20, St. Mary Axe, E.C.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Works, Pittsburgh, Pa., U.S.A.

Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

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Hayward-Tyler & Co., Ltd., 99, Queen Victoria Street, London, E.C.

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Homelight Oil Co., Ltd., 14, St. Mary Axe, London, E.C.

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Spencer, John, Ltd., Globe Tube Works, Wednesbury.

Thom, John M., Patricroft, near Manchester.

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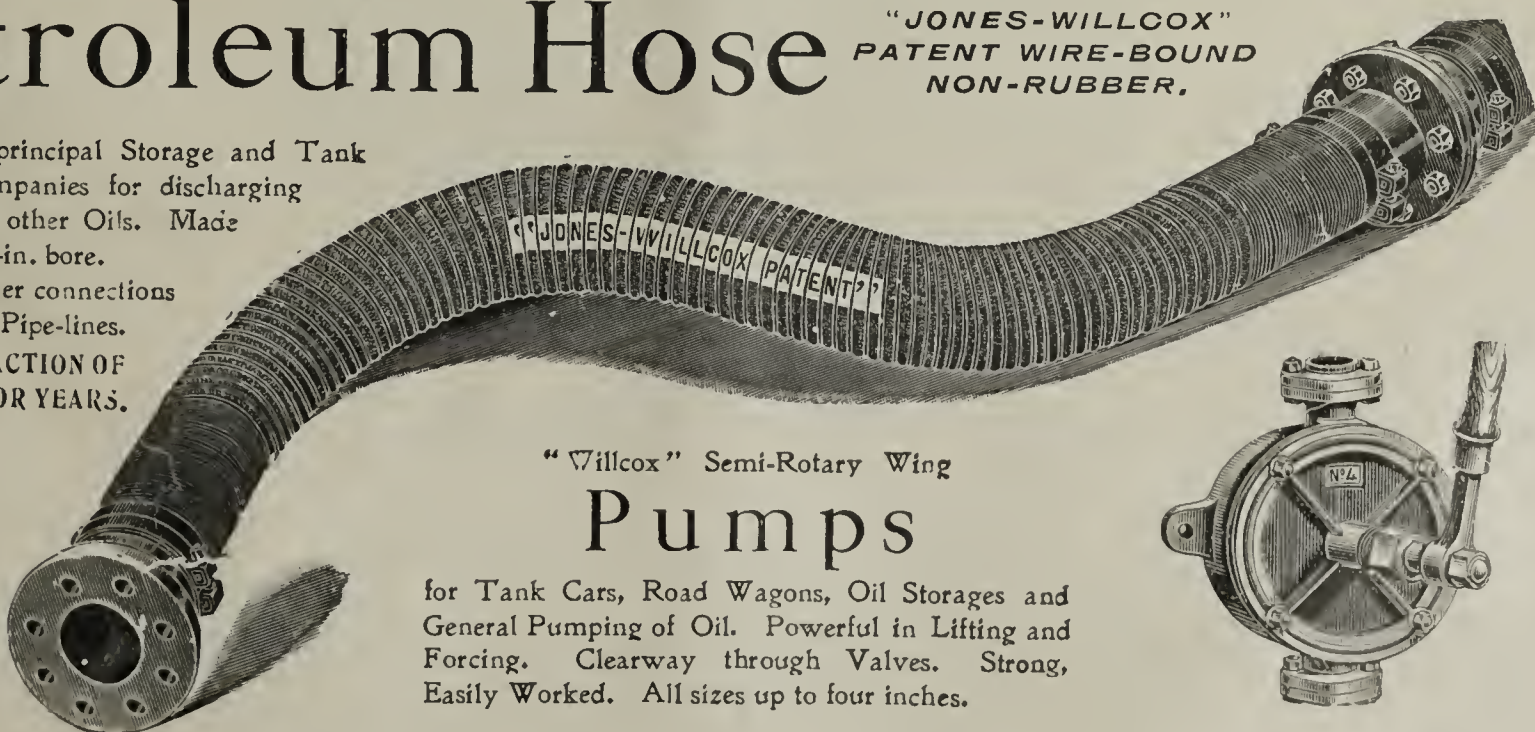
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THE PETROLEUM REVIEW.

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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

A New Oil Storage Depot Near Hull.

THE advance of the petroleum trade in this country is exemplified on many hands, but in no place more so than on the banks of the Humber, where, we understand, the North-Eastern Railway Company is now constructing a huge oil distributing depot, which will be the largest oil station in the north of England. The primary object of the undertaking is to import oil of all kinds from Mexico, Roumania and Russia, and to distribute them to different parts of England, particularly the northern counties and the Midlands. The oil will be brought in steamers of from 5,000 to 8,000 tons capacity, which will come alongside a pier, already constructed, protruding a distance of 1,500 ft. into the River Humber and admitting of steamers discharging at any state of the tide, there being a depth of 30 ft. of water at low tide. The oil will be pumped out of the steamers into the storage tanks on shore, whence it can be poured into railway tank wagons and sent to any part of the country. More than twenty huge tanks for the storage of different kinds of oil are in course of construction, and some of these tanks have a storage capacity of 525,000 gallons. The depot, which will comprise nearly 190 acres of land, will be joined up to the new joint dock and the whole of the other docks at Hull by railway sidings, and oil can be shipped from the quaysides.

The Situation in Mexico.

THE situation in Mexico is of grave concern to those associated with that country's petroleum industry, but it is safe to assert that many of the highly-coloured accounts which have of late appeared in the daily press, are gross exaggerations of the position. As a matter of fact, up to the time of writing, we learn from authoritative sources that even the oilfield workers are not

seriously troubling themselves over the troubled condition of the country, nor indeed show any great interest in the negotiations which are being carried on between the representatives of the United States and the two parties who are seeking for the control of affairs in Mexico. The destruction of oil properties is mere rumour, and so far oil operations are proceeding in quite their normal course. Exports of crude oil are expanding, and the latest details of cargoes shipped to United States ports show an enormous increase. In fact, Mexican oil is already becoming quite an important factor in the petroleum industry of the States.

Petroleum in the Kazan Province.

IN our last issue we gave a few details of an English company which is about to operate the oil deposits of the Kazan province, in central Russia. We now learn from the Russian press that during the past two years Mr. Demin, a boring engineer, has been carrying on investigations in the province with a view to establishing the existence of petroleum in commercial quantities. So far he has bored six wells by the hand method, in each encountering abundant quantities of rock imbibed with petroleum, though the wells were only sunk to a depth of two or three hundred feet. Mr. Demin has come to the conclusion that there are prolific deposits of petroleum in the province, which he asserts will be met with at about 1,000 ft. From the natives he has acquired large areas of promising land, and hopes to be in a position to market Kazan oil next year. Should commercial supplies be found, the Kazan locality will immediately prove a popular field by reason of its favoured geographical situation.

Two Interesting Events.

TWO events of more than ordinary interest took place simultaneously on Thursday afternoon last, on the Tyne, both of which are reported elsewhere in the current issue. One was the leaving the stocks at Jarrow of another of those mammoth 15,000-ton oil-tankers for the fleet of the Mexican Eagle Company; the other was the launching by Lady Samuel of the "Arum," the first of the Diesel-engined fleet for the "Flower" Motor-Ship Company, Ltd. Both events have a singular importance, but especially has the latter, inasmuch as it marks the commencement of a new era of ship propulsion in which oil will play an even more important rôle than it has hitherto done. Years ago it was Sir Marcus Samuel who did so much to popularise the use of liquid fuel for marine purposes, and now again we see him throwing his whole heart and soul into popularising the Diesel engine for ocean power purposes. To him the marine world owes a debt of gratitude which will ever live.

THE KAZAN OILFIELDS, LIMITED.

WE learn from the Kazan Oilfields Limited, that a cable has been received stating that No. 3 bore-hole on the Company's property is now showing a continuous small flow of oil. This well cannot be at a much greater depth than 200 feet. The three wells of the Company—one a gas well, the second giving a small and intermittent oil flow, and No. 3, with its now reported continuous small flow—are in one line, the distance between Nos. 1 and 3 being eight miles.

THE EAGLE OIL TRANSPORT COMPANY'S FLEET.

The REVIEW is in a position to publish a complete list of the Eagle Oil Transport Company's fleet. It is as under:—

				Tons.
Commission	...	“ San Antonio ”	...	9,000
„	...	“ San Dustano ”	...	9,000
„	...	“ San Eduardo ”	...	9,000
„	...	“ San Fraterno ”	...	15,000
„	...	“ San Gregorio ”	...	15,000
Launched	...	“ San Hilario ”	...	15,000
Building	...	“ San Isidoro ”	...	15,000
„	...	“ San Jeronimo ”	...	15,000
„	...	“ San Lorenzo ”	...	15,000
„	...	“ San Melito ”	...	15,000
„	...	“ San Nazario ”	...	15,000
„	...	“ San Orofre ”	...	15,000
„	...	“ San Patrico ”	...	15,000
Commission	...	“ San Ricardo ”	...	9,000
„	...	“ San Silvestre ”	...	9,000
„	...	“ San Tirso ”	...	9,000
„	...	“ San Urbano ”	...	9,000
Building	...	“ San Valerio ”	...	9,000
„	...	“ San Wilfrido ”	...	9,000
„	...	“ San Zenfernio ”	...	9,000

THE PREMIER OIL AND PIPELINE COMPANY, LTD.

Forthcoming Meeting.

THE secretary of the Premier Oil and Pipeline Company, Ltd., announces that a general meeting of shareholders will be held on 19th December for the purpose of receiving the report for the year ended 30th April last, and, if possible, to submit the audited accounts for that period. Messrs. Price, Waterhouse & Co. are engaged in auditing the accounts in Austria, and it is anticipated that the audit will be completed in time to present their report and the audited accounts at the meeting. The present early intimation of the meeting is given to shareholders, as "the directors feel that in view of the delay in completing the accounts owing to the very complicated nature of the company's operations, it will be more satisfactory to the shareholders if a definite date is fixed for a meeting when a full report on the business can be made. The directors feel confident the shareholders will realise that with a company having such varied interests, and whose operations are conducted through so many Austrian subsidiary companies, a partial statement regarding the results would be unsatisfactory, and for this reason it is considered advisable to defer any statement until the general meeting."

Mr. Charles Perkins, who has for many years been connected with the Galician oil industry, has now joined the board in the interests of the ordinary shareholders, in view of the retirement of Sir Henry Dalziel.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended November 22nd was 114,000 poods.

SPIES PETROLEUM COMPANY, LTD. — The production for week ended November 23rd, was 281,130 poods, or about 4,534 tons. The total production for the year from January 14th to November 23rd, was 11,834,635 poods, or about 190,881 tons. The total production for the corresponding period last year was 14,567,865 poods, or about 234,966 tons. Price of crude oil at Baku is now 44½ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD. — The production of crude oil for week ended November 22nd was 21,939 poods, or 354 tons.

EUROPEAN OILFIELDS CORPORATION, LTD. — The production for the week ended November 23rd was 98,600 poods, or 1,590 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended November 22nd was 122,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended November 22nd was 24,926 poods (402 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended November 22nd was 7,950 poods, or 128 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended November 23rd was 8,856 poods, or 143 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended November 22nd, 115,467 poods or 1,862 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest production for week ended November 25th was 4,252 tons. Corresponding period last year, 1,851 tons. Total production to date for this year, 106,804 tons, last year 30,346 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended November 23rd was 101,300 poods, or 1,634 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended November 22nd was 7,000 poods or 113 tons.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended November 22nd was 15,430 poods (249 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended November 22nd was 1,204 poods (19 tons).

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THE ROUMANIAN CONSOLIDATED OILFIELDS, LTD.

A FEW DETAILS OF THE LARGEST ENGLISH COMPANY OPERATING IN ROUMANIA

THANKS to the success of recent English enterprise in Roumania, that country will, without doubt, in future rank in the forefront of popularity amongst those capitalists who seek petroleum investments.

Nor is this surprising since there are few petroleum-producing countries that can boast of such a record of



The Company's No. 6 Well at Chiciura, now down to a depth of over 700 ft.

continuous progress as that enjoyed by Roumania, whose petroleum production has, under the fostering care of a friendly Government, combined with the assistance of foreign capital, reached such a figure that not only are all home demands satisfied, but a surplus remains which this year alone allows the export to European markets of well over one million tons of petroleum products.

Among the companies which have in no small degree contributed to the successful exploitation of Roumania's oil wealth, the Roumanian Consolidated Oilfields, Ltd., occupies a foremost place, but it is a foregone conclusion that its past success is but insignificant compared to that which is in store for it in the future, for it has to be recollected that it is only just over a year since it was formed. As its name suggests, it represents a consolidation of English enterprise, having been formed last year to take over the assets of a concern of the same name, the British Roumanian Oil Company, Ltd., the Roumanian Oilfields, Ltd., the Central Roumanian Petroleum Company, Ltd., the Bana-Moreni Petroleum Company, Ltd., the Moreni

(Roumania) Oilfields, Ltd., and the Moreni Pipeline & Transport Company, Ltd., the latter two concerns being subsequently acquired.

It says much for the value of the assets of the respective companies, and speaks even more in favour of the spirit of amalgamation, that to-day the Roumanian Consolidated Oilfields, Ltd., is one of the four principal petroleum concerns operating in Roumania, the others, as our readers know, being the Steana-Romana, the Astra-Romana, and the Romano-Americana.

The capital of the Roumanian Consolidated Oilfields, Ltd., is one and three-quarter million pounds sterling, and its petroliferous territories cover over seven thousand acres. These areas are scattered over practically the whole of the oil territories of Roumania, for the company owns oil-bearing lands in the districts of Moreni, Campina, Bushtenari, Chiciura, Toncesti, Baicoi, Bordeni, Tzintea, Filipeshti de Padure and other less known areas. But the company does not confine its operations to the production of crude oil alone, for it possesses its own pipeline installation,



Overlooking Toncesti and the Company's No. 13 Well—Bushtenari in the background.

storage depots, and well-equipped refineries at Targoviste and Ploeshti.

It is therefore evident that the company is not only favoured by being the possessor of extensive oil-bearing lands in the most prolific fields of Roumania, but its financial position is such that it can take advantage of

any opportunities which may arise for strengthening its present strong position. As an instance of this, we may mention that in view of the building of the Roumanian Government's trunk pipeline from the oil refineries and the oilfields to the export port of Constanza, the directors of the Roumanian Consolidated Oilfields have adopted the wise policy of securing land at that port in order to facilitate the inauguration of an export trade in petroleum products. The land which has been secured is in close proximity to the Constanza harbour, and here will be erected the necessary bulk storage tanks, pipelines and railway sidings—all necessary adjuncts to an export business.

The first year's operations of the company have been remarkably successful in spite of many drawbacks, for at the recent meeting of shareholders, the chairman, Mr. Richard Barnett, was able to announce the earning of a gross profit of over £110,000, or a sum equivalent to a ten per cent. dividend upon the whole issued capital of the company. When one recollects

increased. Thus, though the Company has been very successful in the first few months of its career, it is a foregone conclusion that its success will be far greater in the years to come.

We will now briefly refer to the various operations of the company in regard to the development of its lands for the production of crude oil. At the statutory meeting of the company held last July twelvemonth, Mr. Richard Barnett told the shareholders that nothing would be wanting on the part of the directors to secure the greatest output from their lands that was compatible with economy and efficiency.

How the board has lived up to its promise is seen from the fact that, during the first year of its operations, the company had a crude oil production of over 64,000 tons. This crude oil output was mainly derived from the Moreni-Bana field, wherein the company has a large acreage.

The Moreni field of Roumania (of which the Bana district is a part) is admittedly one of the richest of all



The Drillers' Quarters on the Property—Mr. H. T. O'Brien standing at the Entrance.

the obvious disadvantages which a new company is under during the first few months of its existence, when a focussing policy has to be inaugurated in order to bring the various independent concerns acquired under one central plan of organisation and management, the result of the company's first year of operations must be eminently gratifying not only to the shareholders but to the directors themselves, for it is the latter who have had to bear the brunt of the battle. But satisfactory as have the profits so far been, they might have been even more substantial had not certain difficulties stood in the way. For instance, many of the properties acquired did not come under the direct control of the company for many months after it was incorporated, and again, old contracts were running for the sale both of crude oil and refined products, and these naturally had to be carried out in spite of the fact that since they were made the quotations both for crude oil and the refined products have materially

Roumania's oil regions. It is situated in the oil zone of Gura Ocnitza, and is the one region which alone saved the situation for the Roumanian petroleum industry years ago, for its remarkable increased production commenced to make itself felt in 1909 when a steady decline was taking place in the old-established field of Bushtenari. It was in 1904 that the Moreni field, with one single leap, came into prominence, and the Campina-Moreni Company (which as our readers are aware was afterwards amalgamated with the Regatul Romana, now absorbed in the Astra-Romana) can claim credit for proving Moreni as an immensely prolific oil district. This company started a well in the region which had neither hand-dug wells nor any important surface outcrops, and when at a depth of 250 metres, the well came in a producer with a yield of 100 tons per day. From that time to the present the Moreni field has been justly famous, and to-day there is scarcely a company of note operating in

Roumania which has not secured some portion of this rich field for its operations.

Several oil horizons have been well defined, the deeper being particularly prolific in their oil contents. In the Bana section of Moreni, the Roumanian Consolidated has ten producing wells and fifteen in course of drilling, of which three at depths ranging from 500 to 600 metres are situate in the southern part of the field, and without a doubt the company will concentrate much of its activity here for years to come.

The company has erected a well equipped machine shop on this portion of its properties, and it speaks volumes for the managerial care which has been exercised, that not only are the whole repairs of the company's plant being carried out here, but work is

notice of oil operators. So far the company is drilling six wells in this territory, one of which (No. 3) is now on the point of coming into regular production. This well is in the same line and the same strata as the large wells of the Colombia and Orion Companies—a fact which augurs well for its productivity.

Obviously, it is impossible for the Consolidated to develop at one time more than a small proportion of its properties, even with its comparatively large finances, and therefore the directors have followed the idea adopted by other well-known influential companies by forming a subsidiary concern, the Chiciura Oilfields of Roumania, Ltd., which will be launched a few weeks hence. A few details of this new company and the assets which it takes over from the parent concern



Wells Nos. 5 and 3 (with No. 4 at the rear) on the Company's Property at Moreni.

done for all the companies operating upon neighbouring properties, the result being that the cost of the company's own repairs will be more than compensated for by the other work carried out in the shops.

But apart from the Moreni-Bana properties, the Roumanian Consolidated Oilfields holds extensive territories in other parts of the Roumanian field. Some of these are in regions long ago famous for their wealth of oil; others are in districts less known, yet where the evidence of the existence of oil in commercial quantities is, though proved, not yet developed.

One of the company's richest holdings is undoubtedly in the Chiciura field—a locality immediately south of Bushtenari and north of Bordeni. Here other important operating interests are at work, and within a few months it is anticipated that many agreeable surprises will bring the district prominently to the

should prove interesting at this juncture. The new company is to take over 225 acres of the Consolidated Company's lands in this important district for which it gives a consideration totally in shares—150,000. The parent company, however, will retain the control of the new undertaking both as regards the issued capital and the administration, while it is entitled under a contract to take all the oil the new company produces for a period of years at the market price minus 2½ per cent. By adopting such a policy, a two-fold advantage results. On the one hand, the new subsidiary company starts its career under most promising auspices, with assets of great value, and with an oil territory partially under development at the moment, if not even in actual production. It is also free from those embarrassing difficulties which beset many new concerns in regard to the marketing of its oil, while it will, by reason of

having ample cash resources, be in a position to concentrate all its energies in developing its own properties, having at its back the advice and experience of those gentlemen who have brought the parent company to such success in so short a time.

So far as the Roumanian Consolidated Oilfields is concerned the advantage of having a subsidiary under its control, formed to specially develop one portion of its properties, cannot be over-estimated, for the one drawback which the officials of the Consolidated Company have recognised in the past has been its inability to undertake development of its Chiciura estates with the same rapidity as has characterised the operations of the Colombia and other companies. Then, too, with the Chiciura Oilfields energetically at work upon development, it is assumed that in a few months a steadily increasing supply of crude oil will be available for the parent company's refining needs, which it will be able to purchase at a little less than market price. Thus, to all concerned, the policy of forming a subsidiary company must be regarded as a particularly wise step.

As to the Consolidated Company's other territories, there is no doubt that when the new subsidiary is fairly on its feet, the parent concern will be able to turn greater attention to the development of many of its other territories in the Bordeni, Tzintea, Campina, Filipeshtide Padure, Pacureti and Cornu fields. All these regions are now ripe for full development, and the fact that other operating companies are actively pushing forward drilling work is in itself suggestive that the time has come for the Roumanian Consolidated directors not only to launch one but several subsidiary concerns in order that the potentialities of the immense acreage which the company holds may be fully proved.

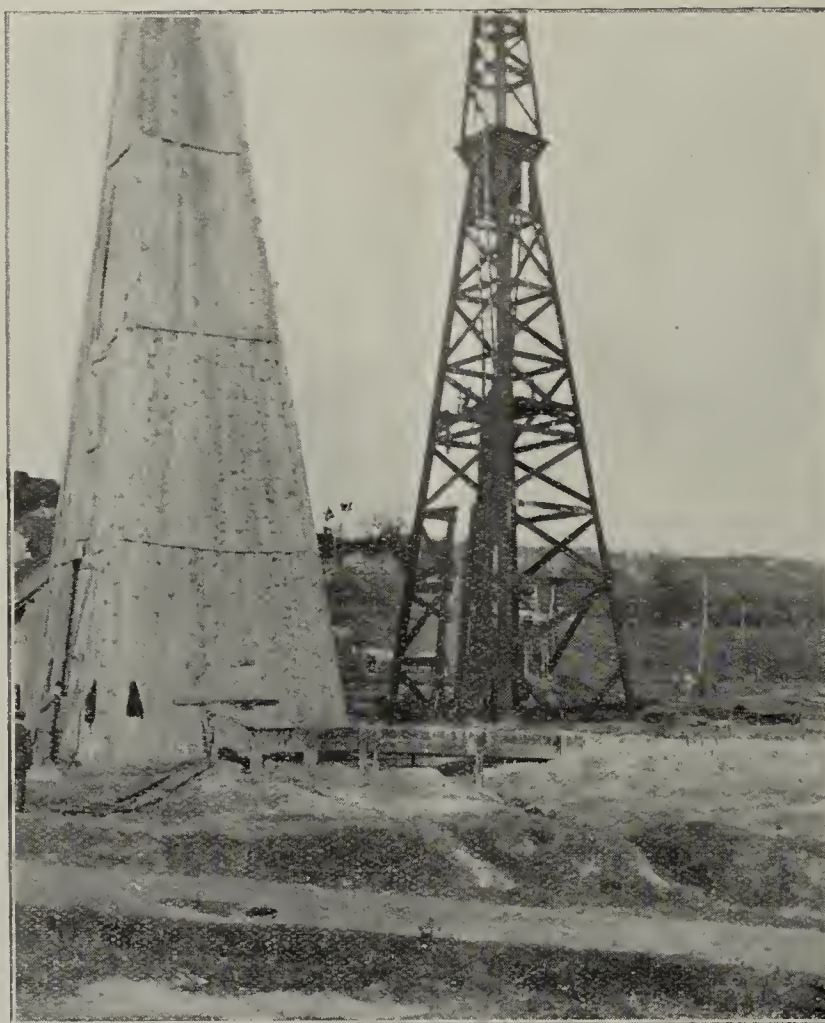
As we have already stated, the Roumanian Consolidated Company is not only a producer of crude oil, but a large refiner also. Its refinery at Targoviste is one of the most up-to-date in Roumania, and the fact that it earned one third of last year's total profits suggests that it is maintained in a high state of efficiency and capable of earning even larger profits. As a matter of fact, additions have lately been made to the plant which will naturally increase its profit-earning capacity in the future. A new rectifying plant has been installed, while a system of preheaters has been introduced. The refinery is largely dependent upon its supply of crude oil from the company's wells, and it is connected by pipeline with the Moreni-Bana field, where the major portion of the Consolidated Company's crude oil is produced. Comparatively recently, how-

ever, the Consolidated Company has purchased the Prahova refinery at Ploeshti, together with thirty acres of freehold land, including pipeline connections, etc., and this additional asset enables the company, by means of its pipeline system from Moreni, to treat the Moreni crude at its Ploeshti refinery when occasion arises.

It may not be generally known that the Moreni oil, upon which the company's Targoviste refinery exclusively works, is the richest oil which has been commercially refined in any part of the world, for it yields over fifty per cent. of motor spirit in laboratory tests, and in actual refinery work shows a percentage of between 47 and 48. It can thus be seen that the refinery branch of the Roumanian Consolidated Oilfields, Ltd., is one in which the operations are conducted upon a very profitable scale, since the crude oil yields so remarkable a percentage of valuable refined products.

An article such as this would not be complete if reference were not made to the excellent management of the whole of the Company's properties. The whole of the directors of the company have their hearts and souls in the enterprise, and the numerous visits which they have paid to the properties suggest in themselves that the offices are no sinecure. The company is also fortunate in having as its managing director on the fields, Mr. Alfred Rutherford, for it has been mainly owing to the systematic organisation he has brought into being that the exceptional profits were made during the company's first year of operations.

In a word, it can truthfully be said, that Roumanian Consolidated Oilfields, Ltd., is an organisation of which investors and the petroleum industry at large may be justly proud.



Wells No. 5 and No. 1 at Tzintea, the Open Derrick being the No. 1 Well now Abandoned.

KEROSENE MONOPOLY IN MONTENEGRO.

WE are informed that the Montenegro Government intends introducing a monopoly for kerosene, and not being in the position to organise such itself, intends giving it over, on some definite conditions, to a large Russian firm.

The consumption of kerosene in Montenegro is estimated to be at present, with the increase of the territory, 3,500,000 to 4,000,000 kilogrammes per annum. It will be necessary to erect eight installations, one each at Antivari, Zetinie, Podgoriza, Nikshiza, Anarieviz, Petch, Diakovitz and Plevla. From these installations a distribution system will be organised in order to supply retailers. Three-fifths of the bulk of the kerosene will go via Antivari and the rest via Salonika. The present price of kerosene at Antivari is 13.5 to 14 kronen per case.

"MARSHALL" OIL TRACTORS IN SOUTH AFRICA.

THROUGH the courtesy of Messrs. Marshall, Sons & Co., Ltd., Gainsborough, we have been favoured with particulars of haulage tests recently made under government supervision with a Marshall four-cylinder oil tractor fitted with closed circuit radiator.

The tests took place from Brandfort to Haagentsad Saltpan and back, the total journey being fifty-two

miles per gallon being respectively 15.2 and 16.5. The cost per ton-mile (paying load), including depreciation, was 6.8d. on the outward trip and 4.1. on the return.

No cooling water was taken up during the journeys, which were accomplished over undulating roads, with portions even narrower than the wheels of the tractor.

The results undoubtedly speak eloquently not only



Crossing the Saltpan.

miles. On the outward trip the gross weight of the tractor, four trailers and load (which consisted of seven tons of coal) was twenty-nine tons, while on the return journey the total weight was thirty-five tons, thirteen tons of salt being brought back in the place of the coal taken out. On the outward journey the net running was nine hours and a half, showing an average speed

for the efficiency of the "Marshall" oil tractor, but for its economy, and there is no doubt that this form of transport will find even more popularity with those engaged in the search for petroleum in the future than it has hitherto done. For the transport of machinery and supplies to oilfield spots which are in their first degree of exploitation, such a system of transport offers



Travelling where the Road was Narrower than Overall Width of Tractor Wheels.

of two and three-quarter miles per hour, while on the return journey with the greater load the average speed was two miles per hour. The tractor was fitted with a two speed gear, 85 per cent. of the outward running being accomplished on top drive, while for the return the percentage on the fast gear was 68.

The amount of paraffin consumed during the tests worked out at .53 miles per gallon on the outward journey and .4 miles per gallon on the return, the ton-

unique advantages, for the first cost is practically the only cost, since the upkeep is inconsiderately small, while the necessary fuel can practically be obtained anywhere.

Those of our readers who are in any way interested in this important subject of transport cannot do better than put themselves in communication with Messrs. Marshall, Sons & Co., who, as is known, have specialised for many years in the question of economical road transport.

AMERICAN NOTES.

Extensions.—The Standard Oil Company of Indiana has purchased the plant and business of the Purity Oil Company, at Springfield, which it intends to make a centre in Missouri.

Facilities in the Vinton Field.—The Vinton oilfield in Texas is in the future to have deep-water communication with the outer world, for a drainage canal which passes the oilfield and enters Black's Bayou, has recently been constructed.

Pending Oil Land Deals in Oklahoma.—It is reported that not less than three important oil land deals are pending in the Mid-Continent fields at the present time. Two of these will be in the neighbourhood of £200,000 each, and the third will be approximately half this amount.

A Good Louisiana Producer.—The well of the Gulf Refining Company, which was brought in on the Stiles lease of the Louisiana fields on October 17th, with an initial production of 8,000 barrels daily, is by far the best oil producer in the Louisiana territory. It is still holding good for over 3,000 barrels daily.

The Californian Gusher.—After burning for over a fortnight, the oil gusher at Taft, California, has been extinguished, it having finally succumbed to a bath of 10,000 gallons of chemicals. Dynamite was tried as well as steam, but this had no effect, for the well caved in, and though the flame was temporarily put out it became quite as strong again in a short time. The well is now reported to be producing 2,000 barrels daily.

RUSSIAN NOTES.

Binagadi Petroleum Company.—The Binagadi Petroleum Company is increasing its capital from 1,000,000 to 2,000,000 roubles.

The Caucasian Star.—The Caucasian Star Petroleum Company has completed its 1912-13 operating year with a deficit of 16,309 roubles.

Tchimion Company.—The Fergana-Tchimion Company has obtained a reduction to one half of the excise duty on 2,000,000 poods of petroleum products.

The Shikhovo Company.—This company has increased its capital by 3,000,000 roubles. The new capital will be invested in extensive boring operations.

Grosny Petroleum Production During October.—The production of petroleum on the Grosny oilfields during October amounted to 6,870,415 poods, all produced by baling.

Naftalan Petroleum Company.—At the last meeting of this company it was decided to increase the capital by 600,000 roubles, by means of issuing 2,400 new shares of 250 roubles each.

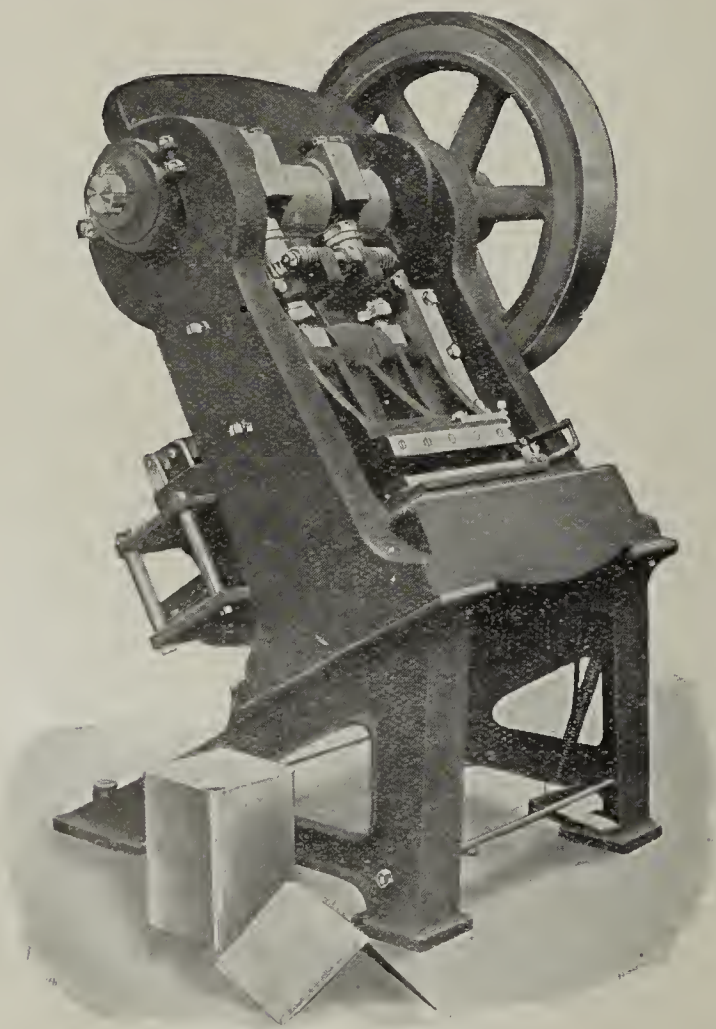
A New Company.—Mr. R. G. Ter-Akopoff has addressed the Ministry of Trade and Industry with a demand to authorise the formation of a new petroleum company under the name Saboonchi.

Reduction in the Price of Kerosene.—On October 30th the price of kerosene in the Volga district was reduced by Messrs. Nobel Bros. and the Mazout Company by 15 copecs per pood. This reduction only concerns the oil sold in wagons.

The Thirty-second Siezd of the Baku Petroleum Producers.—The council of the siezd of the Baku petroleum producers has addressed the Ministry with a demand authorising the convocation of the next siezd on December 12th next.

New Company.—Messrs. Lvoff & Rotvand have asked the Ministry to authorise the formation of a new petroleum company, with a capital of 2,000,000 roubles, for the purpose of acquiring petroliferous plots in the Terski province and other localities of the Caucasian district.

News from Maikop.—A new plot, No. 94, in the Shirvanskaia district, has entered into exploitation. The well has been bored to a depth of 690 ft. and is now producing 250 poods of heavy petroleum a day. Upon otvod No. 555 in the Khadijinskaia district, a deep well has been commenced and is expected to be completed in a very short time. After a long inactivity in the Ilski district, the Leliv-Ilski Company has commenced rapid boring by the rotary method. In the same district Nekrasov & Co. are working by the hand method. Five new petroleum plots are shortly to enter into exploitation.



Body Panelling Press with
Automatic Bending Device.

“RHODES” Can-Making Plants.

Brussels Exhibition, GRAND PRIX.

GUARANTEED MORE MODERN THAN
AMERICAN MAKE.

N.B.—We will send our plants ON APPROVAL to make Petroleum Cans, and undertake to beat any American-made plant on every point, viz., MORE MODERN Machinery, HIGHER QUALITY Machinery, MAXIMUM OUTPUT per Machine, LOWER PRICES.

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LAUNCH OF THE "ARUM."

IMPORTANT SPEECH BY SIR MARCUS SAMUEL, BART.

ON Thursday afternoon, at the Walker yards of Messrs. Swan, Hunter & Wigham Richardson, Ltd., the "Arum," which has been constructed to the order of the Flower Motor Ship Company, Ltd., was launched. Special interest attaches to the "Arum," because of the fact that she is the first of the proposed fleet of vessels for the Flower Motor Ship Company, and whilst she is a cargo carrying vessel, she is fitted with Diesel oil engines, using heavy or crude oil, which engines are also constructed at the Neptune Works, the vessel being engined as well as built by Messrs. Swan, Hunter, & Wigham Richardson, Ltd., The vessel was most gracefully launched, and as she left the ways she was named by Lady Samuel, the wife of the chairman of the Flower Motor Ship Company, Sir Marcus Samuel, Bart., who was also present, accompanied by Mr. Graham, a director.

The following are the principal dimensions of the vessel:—Length over all, about 360 ft.; breadth, 47 ft.; depth moulded, 27 ft. The vessel was built to class 100 A1 at Lloyd's. She has a straight stem, elliptical stern, poop 74 ft. in length, short bridges, and a top-gallant forecastle. There are two masts with eight derricks, three steam winches, steam steering gear, steam windlass, etc., etc. The cargo will be carried in four holds, each fitted with specially large hatchways, and divided from each other by water-light bulkheads.

The propelling machinery consists of two sets of reversible inverted, single acting, Diesel oil engines of the marine type, working on the two-stroke cycle principle, designed and built by Swan, Hunter & Wigham Richardson, Ltd., at their Neptune Works, and containing their latest improvements in this type of engine. They are designed to be capable of maintaining at least 1,150 B.H.P. on trial, and it is anticipated that with this power the vessel will have a speed of $10\frac{1}{2}$ knots per hour. Each set of engines is entirely self-contained. These engines use crude or heavy oil, and it is expected that they will consume about 6 tons per day on service. Equivalent steam engines would require about 20 tons of coal per day. The fuel oil is carried in a tank on deck aft, and also can be carried in the fore and after decks and in the double bottom.

After the launching ceremony, the guests were entertained to tea, and at that function Mr. J. D. Christie, managing director of Messrs. Swan, Hunter & Wigham Richardson's Neptune works, presided.

The chairman expressed regret at the unavoidable absence of Dr. G. B. Hunter, the chairman of Messrs. Swan, Hunter, Wigham Richardson & Company, who was detained in London. The vessel they had just seen slide into the water, he proceeded, and which had been so gracefully named by Lady Samuel, was intended for cargo carrying purposes, and the interesting feature

about her was that her propelling machinery was of the internal combustion type, consisting of two sets of reversible inverted, single acting, Diesel oil engines of the marine type, working on the two-stroke cycle principle, designed and built by Messrs. Swan, Hunter & Wigham Richardson, Ltd., at the Neptune Works. It was not for him to speak about engines, or about oil, and its uses and advantages. That would be done by Sir Marcus Samuel, for no one living knew more about oil and its suitabilities, and the probabilities of its adoption for the Diesel engines, and for other purposes; whilst for the engineering side they had present Sir Fortescue Flannery, himself an eminent engineer. They had also present Mr. G. F. Tweedy, the speaker's colleague, who, in the building of the engines, had been greatly assisted by Mr. Max Wurl. He noticed, continued the chairman, that some people had been talking about the deterioration of the British nation, and, amongst other things, they were saying that British engineers had had to go abroad to learn to build Diesel engines. He thought that remark very unfair, and as a patriotic Britain, he did not like it. It was quite true that the British engineers had had to go abroad to learn about Diesel engines, but for that there was a very natural explanation. Here in England there was a good and plentiful supply of cheap coal; oil, on the other hand, was relatively scarce, or at any rate, it was scarce until Sir Marcus Samuel had promised supplies. In many countries abroad the reverse was the case. Oil was plentiful and cheap, whilst coal was very scarce and dear. In this country it was only natural that the cheap power should be developed, whilst in other countries the oil engines had come into use, and had been greatly improved with experience, so that the foreign engineers had now got the pull over us, and had started building Diesel engines. When plentiful supplies of oil began to reach this country, it was made possible to use marine Diesel engines for ships, and engineers in this country started at once to consider how best to arrange and provide those engines. They had two courses before them—either to spend considerable time and money in experimenting to gain certain necessary experience, which they must have, or to go and buy that experience from the foreign engineers who were willing to sell it, and so secure the experience without loss of time. Surely that was the best, the reasonable, and proper way of doing things, and now that our English engineers were becoming experienced he for one felt confident that very soon they would be building marine Diesel engines, second to none others in the world. In conclusion he asked the company to drink success to the Flower Motor Ship Company and to the "Arum," coupling the name of Sir Marcus Samuel with the toast.

The toast was enthusiastically honoured.

Sir Marcns Sammel, rising to reply, said that was indeed a memorable occasion, because if he was not mistaken indeed, the vessel which they had seen launched that day was the pioneer of what would become one of the principal and one of the great fleet of ships in the world. He was quite satisfied to agree with Mr. Christie in the line that he took when he said that one of the objects that animated the directors of his (the speaker's) company, was to encourage the building of these engines by British firms. They saw great progress being made, and made entirely to the credit of those who were performing it, in Germany, where, he might mention, oil was no dearer in comparison to coal than it was in Great Britain, and in Holland. It had occurred to him that after all our engineers, being probably the finest in the world—he would say without qualification the finest engineers in the world—that if they could get in England the best brains of those engineers, and many of them were to be found in that yard, they would succeed in evolving a type of engine which would carry out the inevitable, and promote the movement for superseding steam compression by a system of internal compression. He would not enter into details of the vessel's dimensions, beyond pointing out the unique features of her machinery. As had already been remarked, the principal feature of the engines was that the cylinders were all independent of each other. He was going to give them some facts of the saving that could be effected by using Diesel engines in ships instead of steam, and he thought they would probably agree with him, at all events that there were some grounds for great confidence that that type of ship would supersede steam. To commence with, there was the great safety of the ship. She had two shafts, and those shafts were always visible to the eye of the engineer. There was no enclosed tunnel, and he had always been impressed with that type of ship. The Shell Company, with which he was connected, had to-day 64 ships, and they had been running for 20 years, and they had never had a single accident, nor any of their ships laid up for a single hour because of any breakdown in the shafts. In this particular ship, and on all Diesel engine ships in fact, the multiplication of the number of cylinders gave a sense of security that no other engine could possibly give. If one was to consider, as they must do, the earning power of these ships, it was important and of the greatest moment to them to see there was complete security. There was no doubt about it that a movement like that—and the members of the company had put into it one million pounds sterling—would indeed give impetus to British trade. The hall-mark of success in business was making money, because any fool could go into a speculation, but if they did not make it pay it would be swept aside. The greater safety of the vessels was made manifest in the fact that the underwriters had accepted insurance against total constructional loss at 27s. per cent. per annum. Seeing that these boats would have to compete, and that very strongly, against the ordinary steamship, it began with this initial advantage, and they could scarcely be sufficiently grateful to the British underwriters, who like the British engineers, were determined to put no obstacle in the way of progress. In addition to her

greater safety, the vessel would have an enormously increased carrying capacity over a steam vessel of the same size. About 900 tons of fuel would be sufficient to take her along for 150 days without once replenishing her, and fuel spaces were in her double bottom, fore peak and aft peak. In other words, the entire space in the ship was available for carrying cargo, and when they considered that in vessels having their engines amidships, the engines occupied the widest part of the vessel, and the amount of space taken up by her coal, and so on, it was at once seen what a great saving of space was effected by the use of the Diesel engine. The use of the Diesel engine would mean that they would not have to detract one ton from the cargo of the vessel to make room for fuel. Then again, there was the question of the accommodation for the crew. The "Arum" was provided with the ordinary accommodation for the crew of a vessel of her size, but as she carried twelve hands less than a steamer would do, the engineers, officers and crew found themselves in a very comfortable position indeed, and there was no suggestion of crowding in the fore-castle. He drew attention to the immense size of the hatches, too, and said these were capable of taking an entire locomotive, and of stowing it. They were aware, by long experience, of what that meant in the loading of a ship, for it greatly increased her capacity, under ideal conditions, as compared with the ordinary vessel. The underwriters had taken into account along with other things, that in that type of vessel, using the description of fuel it would, there was no fear of spontaneous combustion. This was a matter that seemed to be very little understood. Even with the most volatile oils, petrol itself, spontaneous combustion was quite impossible.

The question of the supplies of oil was what had vexed a great many people, he proceeded, but there was no scarcity of the mineral. If he had had to depend upon the Shell Company alone for all his supplies, he would never have gone so far. If anybody had had to depend upon one, two, three or even four companies for their supplies of oil, he would still say that it was a very serious matter indeed to enter upon the building of these ships. But Mr. Winston Churchill had taken a broader and a wider view. When he had converted some of the units of the British fleet into oil vessels, he naturally took great care, before he relinquished the steam, to see where he was going to get his oil supplies from. His decision to make the change would be more than amply justified, because he (the speaker) had just received some interesting information, which was not to hand a few days ago. It was that the first cargo of Trinidad oil for the British navy was landed three days ago in the Thames, and the first cargo of Persian oil was landed two days ago at Sheerness. Those companies were entirely and absolutely free from any kind of control by the Shell company. There were undoubtedly enormous supplies of oil, and it was interesting that they had been able to make for their company a contract for ten years for the supply of oil at a very low price, and he knew as a fact that the company he had referred to would be very glad to enter into other similar contracts with anyone who cared to approach them.

The company with which he had the honour to be

associated had no monopoly in oil, and he thought it would be a most unfortunate thing if any one firm could get a monopoly. They had now in Persia, and he thought he might say in Trinidad, too, large supplies of oil, whilst in Mexico there was practically an illimitable supply, and the oil was cheaper, ton per ton, than coal was to-day. They had also the large oil-bearing fields in Sarawak and in Egypt. He had that day received a telegram asking that another well might be made at Sarawak, and he might mention that they had not found a single blank well in all that they had put down up to that day. He trusted that at last the British production of oil would be forthcoming in that region. Then, they had last, but not least, California.

Sir Marcus then proceeded to refer to the opening of the Panama Canal, and said he wondered how many people in this country realised what the opening of that canal meant. He did not wish to enter into politics at that gathering—that would be quite out of place. But it would not be quite out of place to call attention to the effects the opening of the Panama Canal would have. It would have the effect of opening up large tracts of land, and the production of cereals would be enormously increased, and within the next three years would be coming to this country. By the linking up of the Pacific and the Atlantic they had opened up millions of acres of land, probably the richest in the world for growing cereals, and they were going to bring that practically to their doors. Without giving it a political application at all, it did strike him that it might be unnecessary to build agricultural labourers' cottages in this country unless they were going to give the labourers some measure of protection, because he could not see—it was inconceivable—that agriculture could flourish in this country in so far as the growth of cereals was concerned, when this entirely new era of things was commenced. The cost of shipment, he pointed out, would be enormously reduced—by 30 per cent. at least—and they looked to a great deal more. The opening of the canal would make the vast supplies of oil in California, ton per ton, much cheaper than coal was to-day, and already oil fuel was obtainable at 16s. free on board. On those who wilfully shut their eyes to these facts, and still more on those who wilfully misled others as to the future of this great movement, a terrible responsibility rested. He saw that day, with great regret, that Lord Cowdray's concessions for oil in Colombia had been cancelled. If men undertook the terrible risks to win oil, they deserved all the good they could make out of it subsequently. He himself knew what the risks were, for he had experimented in Borneo, and the Shell company spent a million pounds sterling before they got any return at all. The risks they had to take were immense. No man regretted more than he that the concessions which had been promised to Lord Cowdray and his associates had been withdrawn, because he knew how necessary it was to have capital to develop them, and not only capital but skill too. They had deserved the success they had attained in Mexico. He knew nothing of how those concessions were obtained, and he could express no opinion about that. If it were true that those concessions were so arranged that they excluded the progress of Mexico as an oil-producing country, he could

not help thinking that it would be an injury to the country that these things should not be developed. It was quite a different thing in countries like Sarawak, but in Mexico, where there were great lands and national interests, he thought the Government might be justified in saying, "We will take care that the progress of this industry is not barred to any one company or individual." But necessarily very great care would have to be taken that such powers were not used to sweep away men from the advantages of their own industry simply because they had succeeded.

In conclusion, Sir Marcus said he trusted that in the process of time they would see boats of the type of the "Arum" carrying passengers, and going at very high speeds over the ocean. Nothing would please him more than to entrust the building of such boats to the firm who had built the *Mauratania*, and anything he could do to bring that about would be willingly and readily performed.

Sir Fortescue Flannery proposed the toast "Success to the builders," and said that as the "*Mauratania*" started a new epoch when put into the water by Messrs. Swan, Hunter & Wigham Richardson, so also did the "Arum," the "Arum's" epoch being in the history of the marine Diesel engine, as carried out by British shipbuilders. He congratulated Messrs. Swan, Hunter & Wigham Richardson upon their prosperity and extension of works, and hoped that that prosperity might long continue. He was glad to hear Sir Marcus Samuel say he was going to help the firm along in maintaining their prosperity. He complimented also Mr. Christie and Mr. G. F. Tweedy upon the position they held in the firm, and said he was glad to find them occupying the seats so capably filled before them by their fathers. The advantages of the vessel had been so graphically described by Sir Marcus Samuel that there was little left for him (Sir Fortescue) to say. He would, however, say this, that the proportion of consumption of oil fuel in comparison with the consumption of coal, power for power, had been demonstrated to be, at any rate in Diesel engines, about four to one, and under favourable conditions even a bigger balance in favour of the liquid fuel. When he said four to one, he meant in the weight of the fuel. Sir Marcus had assured them of the unlimited supplies of oil in California and in Mexico, and the advantages of the liquid fuel ship were now perfectly clear to the shipbuilders, to the owners, and to everybody concerned. Sir Marcus had pointed out the small space required for carrying fuel, and to that he would add that space would otherwise be used merely for carrying water ballast. Many shipowners were trembling upon the brink of temptation, but had not yet tumbled over, into the resolution to adopt the internal combustion propulsion for their ships. He believed they were hesitating because of the possible defects in the machinery. To that he would only reply that all the difficulties that had presented themselves in the burning of oil fuel in steam ships had been successfully overcome by experience, and so, he believed, would they overcome any difficulties that might arise with the internal combustion system.

This toast was also received in a most cordial manner. Mr. G. F. Tweedy responded, and gave some in-

teresting information of the experiences of Messrs. Swan, Hunter & Wigham Richardson, Ltd., in experimenting with Diesel engines, in which they had been engaged some four or five years. He mentioned the several vessels that the firm had turned out, and said his experience was that on oil fuel boats the engineers must be engineers who knew something of oil engines. As a result of their experiments the firm were now making what they called the Neptune Diesel engine, a two-cycle engine, the first feature of which was simplicity. In conclusion, he thanked Lady Samuel for having named the vessel, and wished the ship every success.

THE PETROLEUM SITUATION IN GERMANY.

Existing Organisations Strengthening their Position.

THE German petroleum market is still in the throes of the suggested State Monopoly. The committee of the Reichstag has concluded a second reading of the project of the State Monopoly, and this will be again discussed at the third reading during the forthcoming winter. The party which until recently has been opposed to the project is now changing its attitude, and it is quite possible that it will give its sanction to it.

Great difficulties may arise as regards the organisation of the distribution company projected by the State. Among other things the committee has decided that the interest on the capital must not exceed 5 per cent., while the proposition of the Government allow it a considerably higher interest, as it is of the opinion that the shares will not find buyers; to the majority of the public it has no interest. It is also doubtful whether Parliament will agree with the Government as regards fixing prices of petroleum in advance for a number of years. In any case, all the companies which are at the head of the German petroleum market are now active in view of the coming monopoly; the German bank especially is employing great activity in enlarging its organisation. The Steaua-Romana has increased its capital from 50,000,000 frs. to 100,000,000 frs. The German bank has also formed the Bavarian Lloyd, a special company for the export of Roumanian petroleum to Germany by way of the Danube. The German Petroleum Sales Company has entered into contracts with large Galician refineries, viz., Fanto, Schodenica and the Galician-Carpathian Petroleum Company, in view of taking over all their production for export to Germany during a whole year.

The German-American Petroleum Company, which is a branch of the Standard Oil Company, has decided to establish direct communications by means of tank steamers between Frankfort-on-the-Main and Bamberg and between Bamberg and Ratisbon, and will thus also utilise on a large scale the transport trade on the Danube. Another large enterprise ruling the German petroleum market is the German Petroleum Society, which is an adversary of the monopoly. This company has also commenced enlarging its organisation on a very large scale. It has recently decided to considerably increase its capital in order to construct steamers, which would allow more transport and better exportation.

Thus the above large companies ruling the German petroleum market are undertaking strenuous work in order to fortify their position.

It is also interesting to note that the fight between these concerns has now also passed over to the benzine market. As a natural consequence of this fight there was recently a reduction in the price of benzine, which is explained by the reduction in freight, but considering the deficiency of benzine on the international market, the reduction in freight is of no importance, and everything tends to show that there will shortly be a great fight of competition among these companies on the benzine market. The cartel of the German manufacturers of benzine will expire on December 31st of this year, and will not be renewed. At the same time the Royal Dutch Company has also annulled its contract beginning from the same date. This company is erecting its own refineries for the manufacture of benzine at Ratisbon, and in view of the fact that the company already possesses another benzine refinery at Dusseldorf it is evident that it intends exploiting the German petroleum market in quite an independent way after the dissolution of the above-named cartel. The Royal Dutch Company has also interrupted its relations with the Steaua-Romana, a part of the benzine of which it was selling in Germany, and consequently the Steaua-Romana has established a branch at Bremen, which will be occupied with the organising of the sales of benzine in Germany.

The result of all these changes will probably be the replacing of the unique group for benzine sales by a large number of enterprises, which will make acute competition one with another. As a natural consequence a considerable reduction in the prices of benzine to consumers may be expected.

BAKU PETROLEUM PRODUCTION DURING OCTOBER.

Preliminary Statistics.

THE production of petroleum in the Baku oilfields during October on all areas amounted to 33,485,000 poods. The production of the principal firms during the month was as under:—

	Poods.
Nobel Bros.	4,800,000
Caspian and Black Sea Company ...	2,000,000
Mantascheff & Co.	1,600,000
Baku Petroleum Company	1,700,000
Caspian Society	1,200,000
Mirzoeff Bros.	1,200,000
Pitoeff & Co.	1,100,000
Runo	900,000
Zoubaloff	800,000
Russian Petroleum Society	900,000
Kavkaz Company	600,000
Nagieff	500,000
Assodullaeff	500,000
Melikoff & Co.	500,000
Aramazd Company	500,000
Sinai	900,000
Miloff & Tairoff	700,000
Baku Russian Petroleum Company ...	500,000
Ter-Akopoff	500,000
Rilski Trustees	500,000

The production at Surakhany amounted to 3,000,000 poods.

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„ Servian ...	6,700	New Steamer	6,200	„ Luciline ...	5,200
„ Carpathian	6,700	„ „	6 200	„ Le Coq ...	4,700
„ Roumanian	6,700	„ Terek ...	5,200	„ Rock Light...	4,100
S.S. Lux ...		2,900		Tons of Oil.	

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LATEST QUOTATIONS OF PETROLEUM SHARES.

ENGLISH COMPANIES.

This list is restricted to companies who have paid dividends or who are producers.

Company.	Share Capital.	Value of Shares.	Latest Prices.
	£		
Anglo-Maikop Corporation...	650,000	£1	10/6-11/6
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{7}{8}$ -1
" 5% Deb. Stock ...	600,000	£100	88-93
Assam Oil ...	310,000	£1	$\frac{19}{32}$ - $\frac{23}{32}$
Baku Russian Petroleum Co.	750,000	10/-	5/3-5/9
Bibi-Eibat Oil Co. ...	250,000	10/-	7/6-8/3
European Oilfields ...	385,000	10/-	6/6-7/6
Lobitos Oilfields, Ltd.	400,000	£1	29/0-30/0
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{5}{8}$ - $\frac{3}{4}$
Pacific Oilfields, Ltd. ...	250,000	£1	3/0-4/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	21/0-22/0
Russian Petroleum Co. ...		10/-	3/9-4/3
Schibaieff Petroleum, new Pref. (fully paid) s/s	690,000 s/s	—	$1\frac{1}{2}$ - $1\frac{5}{8}$
" " new Ord.		(fully paid)	16/9-17/9
Shell Transport and Trading	7,000,000	£1	$4\frac{3}{4}$ - $5\frac{1}{4}$
" " " " " "	3,000,000 Pref.	£10	10 $\frac{1}{4}$ -10 $\frac{1}{2}$
Spies Petroleum Co. ...	750,000	10/-	23/0-24/0

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	715	718
Caspian Society (Issue 1910) ...	1,000	3,175	3,185
A. I. Mantascheff & Co. ...	250	770	775
Nobel Bros. ...	5,000	20,350	20,450
Nobel Bros. (Issue 1912) ...	250	1,040	1,045
Russian Naphtha Society ...	100	293	295
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	273	274
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	395	400

SCOTCH PRICES.

Supplied by Messrs. MACLEAN & HENDERSON, Stirling.

Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	37/6
" 6% Cum. Pref.	100,000	£10	£11 $\frac{1}{4}$
Burmah Oil, Ord. ...	1,100,000	£1	72/0
" Pref. ...	250,000	£1	26/6
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
" 5% Pref. ...	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	5/7 $\frac{1}{2}$
Mexican Eagle Oil, Ltd., Non. Cum. Pref. ...	\$8,500,000	\$10	39/3
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	36/0
" Pref. (£1 paid) ...	100,000	£1	21/4 $\frac{1}{2}$
Premier Oil Ord. ...	2,300,000	£1	7/0
Pumpherstons Min. Oil Co., Ltd. Ord. (17/- paid) ...	110,500	17/-	5 $\frac{13}{16}$
" 6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	11/9
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	75/0
" " B " Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).
Dordtsche Petroleum Industrie My., Ord. ...	Aand 185
" Pref. ...	" 189
Royal Dutch Petroleum Co. ...	" 625
Moeara Enim Petroleum Maatschappij ...	" 244
Perlak Petroleum Maatschappij ...	" 39
Sumatra Palembang Petroleum Maatschappij ...	" 231
Zuid Perlak Petroleum Maatschappij, Pref. ...	" 37
Tarakan Petroleum Maatschappij ...	" 127

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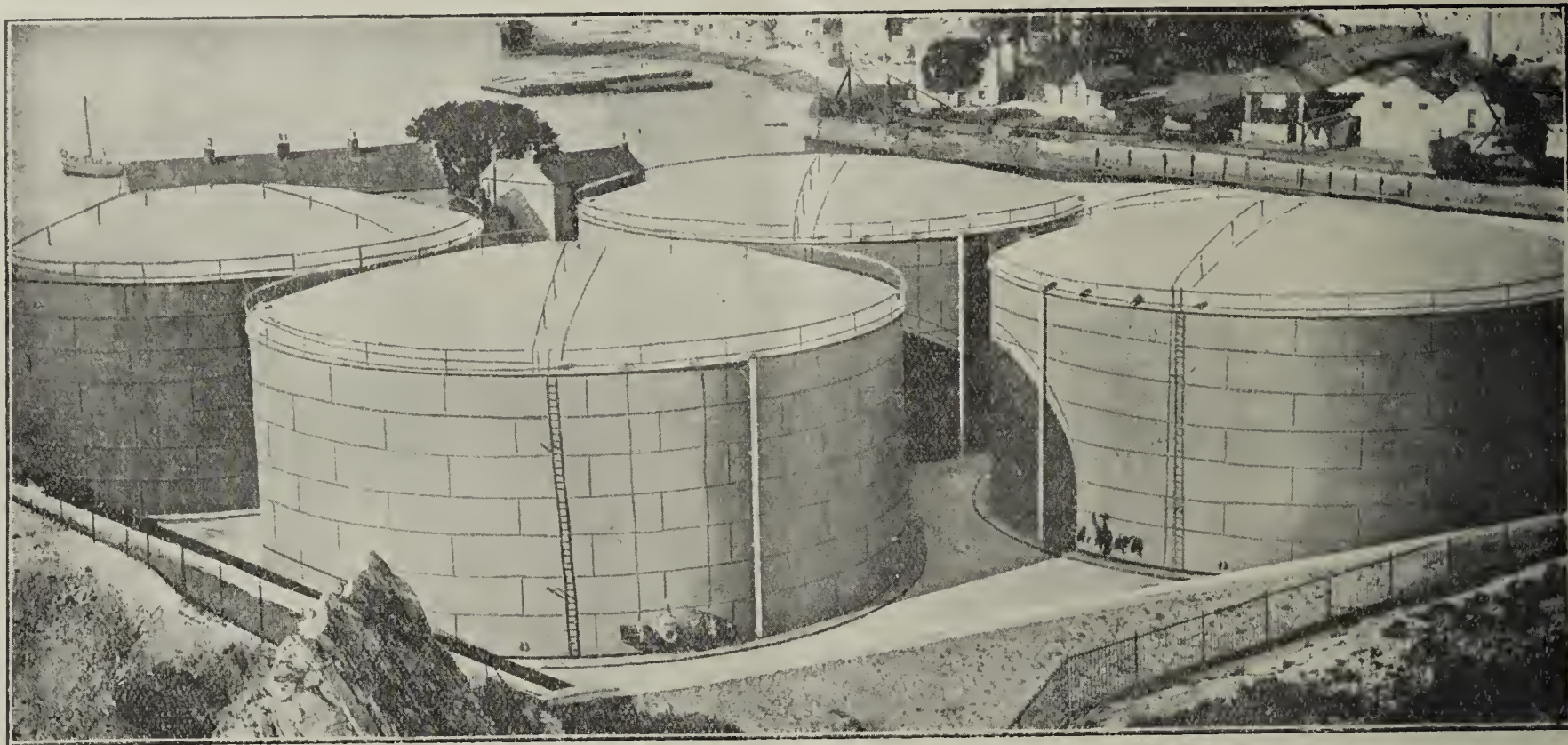
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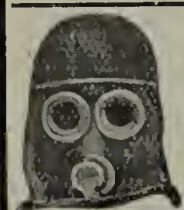
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CHIEF CONTENTS.

	PAGE
Editorial Notes	567
Production of English Companies in Russia	568
The Roumanian Consolidated Oilfields, Ltd.	569
"Marshall" Oil Tractors in South Africa	573
The Launch of the "Arum"	575
Latest Quotations of Petroleum Shares	580
The Anglo-Maikop Corporation, Ltd.	583
Classified Imports into the United Kingdom	584
The Launch of the "San Hilario" (illustrated)	585
The Petroleum Trade of Batoum	589
The Baku Petroleum Industry during 1912	591
The Maikop Victory Oil Company, Ltd.	593
The Byron Oilfield of Wyoming	595
The American Oil Market	596
Home and Foreign Market Intelligence	597
Imports of Petroleum Products	598
The REVIEW Shipping List	599

THE PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, NOVEMBER 29TH, 1913.

THE ANGLO-MAIKOP CORPORATION, LTD.

THE annual report of the directors of the Anglo-Maikop Corporation, Ltd., which is being issued to the shareholders as we go to press, deserves the careful consideration not only of those interested in the extension of petroleum enterprise generally, but more particularly is it worthy of perusal by those critics of Maikop who have attempted—and with some degree of success—to minimise the importance of the Kuban Province and ignore the potentialities of the Maikop field.

The fact that during the past twelve months the

Corporation has made a net profit of approximately £27,000 is in itself a gratifying fact, but what to the shrewd man of business is even more encouraging is that after declaring a dividend of 5 per cent. for the period under review, a sum of nearly £20,000 is carried forward after placing sums to the depreciation and reserve accounts, while to-day the Corporation stands in the exceeding fortunate position of having an excess of cash assets and sundry debtors over its total liabilities of over £96,000.

So far as the Maikop field is concerned, the operations of the Corporation are so scattered and varied that in the main its interests may well be said to represent a very great part of English assets in this new territory, and the satisfactory position in which the Corporation finds itself (especially when it is recollected that the profits now announced have chiefly been derived from interest upon investments from its commercial business) speaks volumes in favour of the resuscitation of interest in the possibilities of the Maikop region.

Following a spell of favourable weather in Maikop, good progress has been made with drilling work in various portions of the field, and though much of this is as yet not completed, it is highly gratifying to note that the output of crude oil is now showing signs of improvement—improvement which will doubtless be the more significant as time advances.

We have all along held that Maikop has not so far been given a fair chance to justify the claims held out for it some three or four years ago. People went into Maikop enterprises with a rush, and as quickly deserted the field before it was possible to prove its oil-producing capabilities, the result being that drilling operations of the commercial order have been comparatively few, in spite of the large quantities of crude oil which the region has already produced.

But it is evident to-day that another chapter will shortly be made in connection with the petroleum history of the Maikop field, and we have reason for believing that those who still pin their faith to this south-western corner of the Russian Empire, will in the long run have no reason to regret their choice. The recent developments in this respect are distinctly encouraging, for important extensions to the producing area have been made, with the result that a wave of activity is noticeable in the northern portion of the field, where by the important strike of the Maikop Premier Oil Syndicate, the upper light oil source has been considerably extended.

But it is not in Maikop alone that the activities of the Corporation have found vent. It is largely interested in the newer field of Krimskaya, for it has a considerable holding of shares in the Maikop Midland Oilfields, Ltd., and the Levanovskoe Petroleum Company, Ltd., both of which companies are energetically engaged in highly successful drilling operations. The Krimskaya field holds an enviable record, inasmuch as every well so far completed there has struck oil. But apart from its share holdings in Krimskaya, the Corporation possesses property of its own adjoining the plots of the concerns just mentioned, and we understand that in view of the exceedingly favourable outlook, the Corporation intends to sink six wells in addition to the four now in course of boring. It says much for the enterprise of English capital, and the foresight of those responsible for the Krimskaya developments, that while Russian companies hesitated to exploit the region in the first case, large Russian oil interests are now being attracted to the field, whose output of crude oil will be considerably increased in a few months' time.

In Roumania, too, the Corporation has solid investments which have proved so highly remunerative during the past year, in spite of the abnormal state of affairs, that the directors have wisely decided to extend their participation in those prolific fields.

Taken as a whole, the results of the Anglo-Maikop Corporation's operations for the past year should not only strike the death-knell to Maikop pessimism, but they are such as reflect infinite credit upon the Corporation's general managing director, Mr. George Tweedy, and his colleagues on the board.

THE DEVELOPMENT OF COLOMBIA'S OIL RESOURCES.

Lord Murray Withdraws His Contract.

THE REVIEW officially learns from Messrs. S. Pearson & Son, Ltd., that they have received a cablegram from Lord Murray, sent from Bogota, in which he informs them that he has withdrawn the contract to develop the petroleum resources of Colombia.

Lord Murray, it appears, has taken this course owing to the political feeling that has been engendered by the negotiations.

Thus British enterprise in this portion of Central America has for the time being, at all events, been frustrated—a regrettable fact.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO NOVEMBER 24th, 1913.

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IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Nov. 17	From Jan. 1.	Since Nov. 17.	From Jan. 1.	Since Nov. 17.	From Jan. 1.	Since Nov. 17.	From Jan. 1.	Since Nov. 17.	From Jan. 1.	Since Nov. 17.	From Jan. 1.	Since Nov. 17.	From Jan. 1.	Since Nov. 17.	From Jan. 1.
Belgium ..	—	250	18,620	672,423	—	—	—	—	—	55,050	—	120	160	5,070	18,780	743,913
Canada ..	—	—	—	9,820	7,810	65,660	—	—	—	—	—	—	—	—	7,810	79,480
Dutch Indies ..	—	—	—	—	—	—	—	—	963,100	38,918,550	—	299,497	—	—	963,100	39,218,047
Germany ..	—	208,220	41,620	3,317,910	—	600	—	211,810	—	471,640	400	800	—	—	4,610	4,215,590
Holland ..	—	—	—	9,930	—	—	—	—	—	7,344,340	—	—	—	590	—	7,354,860
Mexico ..	—	5,753,800	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Roumania ..	1,649,500	18,992,357	440,060	440,060	—	—	—	—	1,038,280	—	—	12,812,160	—	—	—	21,133,040
Russia ..	—	9,844,560	555,850	11,964,721	—	393,390	—	1,150,000	1,917,980	5,827,210	—	9,027,540	—	—	4,007,540	35,437,167
U.S.A. ..	1,688,550	106,267,287	734,190	43,431,774	400	231,755	—	59,322,910	—	11,889,350	—	—	—	—	555,850	34,092,021
Other Countries	—	80	3,420	145,760	—	480	—	—	—	23,706,880	—	5,681,260	27,270	883,985	2,450,410	239,525,851
	3,338,050	141,066,554	1,793,760	59,992,398	8,210	695,885	—	61,723,000	2,881,080	94,601,060	400	27,884,247	1,131,430	1,999,715	9,152,930	387,973,859

LAUNCH OF THE "SAN HILARIO."

An American Lady Launches an English Oil Tanker for the Mexican Trade.

Special and
Exclusive -
Report. - -

THE oil tank steamer "San Hilario," one of the ten large tank steamers being constructed to the order of the Eagle Oil Transport Company, Ltd., was successfully launched on Thursday from the Jarrow-on-Tyne yard of Messrs. Palmers' Shipbuilding and Iron Company, Ltd., the event being one in which immense interest was taken.

The launching ceremony was gracefully performed by Mrs. Herbert J. Carr, wife of the New York director of the Anglo-Mexican Petroleum Products Company, Ltd., the sales organisation engaged in the export of Mexican Eagle petroleum products, and the numerous company of guests present included Mr. H. J. Carr, Mr. G. Mure Ritchie (chairman of Palmers Company), Mr. A. B. Gowan (managing director of

was performed was similarly decorated by intertwined flags—all silently yet eloquently reminding one of the fact that the largest oil ship in the world was to be launched by an American lady for an English company to be engaged in the Mexican oil trade.

Prior to the launching ceremony, a large company of invited guests were entertained to *déjeuner* in the directors room at the yards by the builders.

The launch was, as we have said, very gracefully performed by Mrs. Carr, who broke the customary bottle of champagne (decorated with red, white and blue flowers) on the bows of the vessel, and as she wished "God speed to the 'San Hilario,'" the immense oil-tanker left the slips to the accompaniment of hearty cheering by the spectators.



Palmers Company), Mrs. Gowan, Miss Gowan, Mr. and Mrs. J. Purdy, Mr. E. H. Mundy, Mr. J. E. Francis, Mr. E. W. Delacour, Mr. H. Barringer, Mr. and Mrs. J. L. Twaddell, Mr. and Mrs. J. W. Reed, Mr. and Mrs. W. Bradney, Mr. and Mrs. J. Gray, Mr. and Mrs. C. Robertson, Mr. and Mrs. P. Jack, Captain and Mrs. Hayns, Mr. and Mrs. E. F. Smart, Miss Smart, Mr. J. Patton, Mr. H. Scott Russell, Mr. Hewitson Hall, Mr. and Mrs. H. C. Broadhurst, Mr. D. Kemp, Mr. and Mrs. W. Cowan, Mr. and Mrs. J. M. McFarlane, Mr. and Mrs. S. L. Worton, Mr. and Mrs. J. Gregory, Mr. and Mrs. Hardy, Mr. J. H. Hutchison, Mr. and Mrs. R. J. Thompson, Mr. J. Paterson, and others.

The vessel presented a remarkably imposing appearance as she stood on the slips awaiting the launch, for the finely moulded dimensions of the "San Hilario" gave to the tanker a graceful appearance in spite of her gigantic size. The Union Jack, the Stars and Stripes, and the Mexican Eagle flags floated above her deck, while the platform upon which the launching ceremony

The launching ceremony over, a numerous party of invited guests were entertained by the directors of the Palmers Company, the chairman of directors—Mr. G. Mure Ritchie—presiding, being supported upon his immediate right by Mrs. H. J. Carr and Mrs. Purdy, while supporting him on his left were Mr. and Mrs. A. B. and Miss Gowan (Mr. Gowan being the Palmers Company's managing director).

In opening the interesting *post prandial* proceedings the chairman said it was a great pleasure to the directors and managers of Palmers Shipbuilding Company to see such a large attendance of their friends and well-wishers as he saw around him on that interesting occasion. He was about to propose success to the ship "San Hilario" and prosperity to her owners, the Eagle Oil Transport Company. The "San Hilario" was the first of two sister ships they were building in their yards for the Eagle Company, and only a fortnight previously they launched a smaller vessel from the Hebburn yard for the same owners, and that ship was

now receiving her machinery alongside the sheerings at Jarrow.

Messrs. Palmer had built between eight and nine hundred vessels at Jarrow in the course of their history, extending back now nearly sixty years, consisting not only of vessels of war of every description for His Majesty's Government, but also cargo and passenger steamers of every type. Vessels for the carriage of petroleum in bulk had received no inconsiderable attention at their hands, and many vessels of that description had been built there.

The "San Hilario" was the largest vessel for carrying oil in bulk that the Company had turned out. She had an overall length of nearly 550 feet, and she would carry a total deadweight of considerably over 15,000 tons. Like so many of that class of vessel built during the last year or two, she was constructed on the Isherwood system of longitudinal framing, and though he need not say it, both as to type and as regards general requirements she was one of the most up-to-date vessels yet built. The oil was carried in twelve main compartments, which, divided by a longitudinal bulkhead, formed twenty-four tanks. It was scarcely necessary to add that she was fitted for burning oil, and heating coils were fitted throughout. She was to be fitted with quadruple-expansion engines, steam being supplied by four large boilers, and her trial speed would be between eleven and twelve knots.

He needed not to make reference to other points in the vessel's construction. In all the technical arrangements they had been assisted by their friends, Messrs. Jacobs & Barringer, the technical advisors for the Eagle Oil Company, and thus they would all appreciate the fact that the vessels had been efficiently designed and built.

They were very pleased to have with them that day Mrs. Carr, the wife of Mr. Herbert J. Carr, the New York director of the Anglo-Mexican Petroleum Products Company, Ltd., who also was present, and they much appreciated their coming to the North at that time of the year to assist in the function.

It would be, no doubt, of interest to Mr. and Mrs. Carr, as well as to the company present, to learn that the slip on which the "San Hilario" had been constructed was last occupied by His Majesty's battle cruiser "Queen Mary," the largest battle cruiser at present in His Majesty's Navy—and upon the same berth was immediately to be laid down the largest battleship for His Majesty's Navy that Palmers had hitherto constructed—H.M.S. "Resolution"—and if any friends favoured them with their company when they launched the sister ship for the Eagle Oil Company they would have the satisfaction of seeing the "Resolution" in her early stage of construction. That berth had therefore in succession been occupied by the largest battle cruiser, their largest oil tanker, and their largest battleship.

He then asked the company to drink success to the "San Hilario" and prosperity to her owners, and with the toast he coupled the name of Mr. John Purdy, one of the directors of the Eagle Oil Transport Company.

The toast having been heartily drunk, Mr. Purdy rose to respond. In doing so he said:

Mr. Chairman, Ladies and Gentlemen,—On behalf of the Eagle Oil Transport Company I thank you very

much for the kind expressions in regard to our company. It is a great pleasure to me to be here to-day. I came away from London yesterday in a hurry, and I had no idea we were to have such a large company present. The present gathering is very gratifying to our company and myself, and I agree with the chairman that we are delighted to see Mr. and Mrs. Carr present to-day, and I would especially thank Mrs. Carr for performing the function of the launching in the admirable way in which it has been performed. I have to thank Mrs. Carr very much on behalf of Lord Cowdray and the directors of the Eagle Oil Transport Company, and I have very much pleasure in asking Mrs. Carr's acceptance of a small memento of this interesting occasion.

So far as the company is concerned and the ships which it has built, I need only say that we are hoping—though not this year, perhaps, but in a few years hence—to have every saint in the calendar represented by a vessel belonging to the Eagle Oil Transport Company. When we shall get to such a stage, however, I do not know. All I can say is that, so far, the ships we have had built have all been most successful. They are doing very good work, and I believe that our oil ships are the most up-to-date in the world. So far as their usefulness is concerned, I think we may safely say that they are booked ahead for some months in advance, and the other ships when they are ready for commission will be fully occupied with plenty of work. I thank you very much for having coupled my name with the toast.

Mr. Purdy then stepped forward and presented to Mrs. Carr a most elaborate silver model of a fully-rigged ship, amid much applause.

Mr. H. C. Broadhurst, the secretary of Messrs. Palmers Shipbuilding & Iron Company, Ltd., said he had to submit a toast which he was sure they would all receive with acclamation. That was the toast of the health of the lady who had so ably and successfully christened the "San Hilario." Mrs. Carr, as no doubt they were all aware, had come a very considerable distance to perform the ceremony, and he was sure they were all pleased that the event had passed off so successfully. He wished the company to join with him in drinking the very good health of Mrs. Herbert J. Carr. Before doing so, however, he had a very pleasing duty to perform, and that was to ask Mrs. Carr's acceptance of a gold vase suitably inscribed on behalf of the builders of the "San Hilario." He then handed to Mrs. Carr the handsome gift.

The toast having been enthusiastically honoured,

Mrs. Carr rose to reply. In accepting both presentations she said: I really feel that this is the happiest day of my life, and in its glory I wish to thank you—the directors of the Eagle Oil Transport Company—for the beautiful ship you have presented to me, and for the honour you have conferred upon me in asking me to perform the launching ceremony, and to Palmers I would add my equal thanks, all of which can only too mildly express to you how deeply touched I am to-day. Let us therefore drink to the success of the "San Hilario," and last but not least to the continued success of Palmers Shipbuilding Company.

Mr. H. J. Carr then asked the company to drink to the success—the continued success—of Palmers Shipbuilding Company. As his predecessor remarked in

that room a few weeks ago at the launch of another of their good ships, the custom of having after-dinner speeches had died out with the Chinese, one thousand years ago. He felt, however, that on an occasion like



Mr. and Mrs. Herbert J. Carr.

that he could not adopt the Chinese custom, although he would limit himself to a few words. On behalf of Mrs Carr, he had to thank them for the great privilege and honour they had granted her of launching and christening the finest tank ship in the world, and he desired to express their united great appreciation of the courtesy and honour which had been conferred upon them that day. They were both apparent strangers in their midst that day, yet he felt that that day the American people were forging another link in the chain which bound their British cousins more closely to them, and he cherished the hope that the day was not far distant when they would see both countries' flags intertwined as they had seen them on the platform of the launching ceremony, as a symbol of everlasting peace.

He did not wish to dwell upon the object of the Eagle Company's great fleet which was under construction in the shipbuilding yards of Great Britain, the outcome of the illimitable mind of Lord Cowdray; he would simply refer to the kindness of the directors of the Eagle Oil Transport Company, of the directors of the Palmers Company, and the desire of one and all to make that day a memorable one in the lives of all who had taken part in the ceremony. That day, as it happened, was a day of thanksgiving in America, and a National holiday. Therefore he asked them all to drink to the long life of Lord Cowdray, to the success

of the Eagle Oil Transport Company, and the continued prosperity of Palmers Shipbuilding Company, with which toast he coupled the name of Mr. G. Mure Richie and the co-directors of the Company.

Mr. A. B. Gowan, in replying on behalf of the company, said the company had to congratulate itself upon the fact that it was in a position to launch such gigantic vessels as the one they had seen take the water that day, with such little effort, and he was pleased to say that at the same time they had now acquired the means of insuring ships like the "San Hilario" while they were still on the slips. Their company had, in fact, reached a standard in shipbuilding which could not be beaten. Their great endeavour at all times was to turn out good work, and seeing that the Admiralty was constantly employing them, they could depend upon it that the quality of their work was well looked after. Not only that, but they were continually on the move improving their methods, and trying to lessen the time in building, thus increasing their output, and that at a more moderate cost.

He was pleased to say that all those results were being achieved. He had been connected with many companies during the course of his business career, but he knew of no company where the same kindly feeling existed between the staffs of the builders of vessels and the staffs of the owners of the same. Long might that feeling continue. What was at the bottom of it was



Mr. and Mrs. John Purdy.

that they appreciated the desires of the owners, and they tried by all in their power to carry them into effect. By that means they were conducting a most successful business, and conducting it most happily.

The chairman remarked that he hoped when their friends the Eagle Oil Transport Company were carrying out their idea of having tankers named after every saint in the calendar, the Palmers Company might have a goodly number of those saints on their slips at Jarrow and Hebburn. He desired to add that the firm appreciated the honour of being associated with the construction of vessels for the company of which Lord Cowdray was so closely connected, for he thought beyond all doubt that Lord Cowdray ranked among one of the six most prominent and most capable business men in the whole world.

Mr. R. J. Thompson (Messrs. Furness, Withy & Co.), said that on behalf of the visitors he wished to return hearty thanks for the admirable way in which they had all been received that day. They had had an opportunity of seeing put into the water the largest oil vessel which was afloat, and if the successful carrying out of the christening was followed by as successful a trading career, then both the builders and the owners of the vessel had every reason to congratulate themselves. It had been a pleasure for the visitors to be present. The vessel just launched would carry oil at the cheapest possible rate per ton per mile, and he hoped that she would be as successful as had the other vessels built by Palmers, for he represented a company for whom Palmers had built vessels which had given every satisfaction, and been very successful in that they had proved a remunerative investment for the owners.

The chairman on behalf of the Palmers Company thanked Mr. Thompson for his kind remarks, and said it was a source of great gratification to the company to know that their work was giving such satisfaction. Such remarks as those made by Mr. Thompson were greatly appreciated by Palmers.

At the suggestion of the chairman, the health of Mr. H. Barringer (Messrs. Jacobs & Barringer) was honoured. Mr. Barringer, in replying, said the "San Hilario" was thereabouts the last word in the construction of oil-tankers. She and her sister ships were able to handle their liquid cargoes with a remarkable speed, and when necessity arose there was a system of piping on board which allowed the transfer from one oil tank to another of the contents at will. The cargo could be moved about just as the owners wished. The chairman had mentioned that the stocks upon which the "San Hilario" had been built had also seen the birth of battleships, and now another was to be laid down. He did not doubt that in time to come the "San Hilario" might render good service to those great sea defenders by supplying them with their cargoes of liquid fuel.

This concluded the proceedings of one of the most interesting launches associated with the shipbuilding yards of the Tyne.

The "San Hilario" is one of the nineteen ships being constructed for the same owners, and is to be employed in the transport of oil from the Mexican Eagle Oilfields.

The vessel has an overall length of nearly 550 ft., 6 ft. 6 in. beam, and she will carry a total deadweight of over 15,000 tons.

She is constructed on the Isherwood system of longitudinal framing, to Lloyd's highest class for the shelter deck type under their special survey for the carriage of oil in bulk, and is also in accordance with the latest requirements for Suez Canal, Factory Act

and Board of Trade regulations. The oil is carried in twelve main holds, sub-divided by a centre longitudinal oil-tight bulkhead, into twenty-four compartment tanks, having the usual cofferdams. A central expansion trunk is provided between the main and upper decks, and extends for the full length of the oil compartments.

The boilers are arranged for burning Mexican fuel oil, the necessary supply of liquid fuel being carried in a large cross bunker aft, a deep tank forward and at the sides of the main expansion trunk in order to facilitate the trim of the vessel as fuel is consumed. A large towing winch with cylinders 16 in. by 16 in. is fitted aft for towing ocean-going oil barges, and a powerful steam winch with extended ends is fitted at each mast. Two large warping capstans are fitted on shelter deck aft., and a powerful quick-warping windlass is situated forward.

The ventilation throughout is mechanical, and includes large fans, and special arrangements to ensure safety in connection with the oil-burning apparatus. The oil fuel pumps are located in an isolated pump room. A very complete oil-pumping installation is fitted, being specially adapted for the rapid handling of oils of any viscosity.

The vessel is primarily intended for the carriage of Mexican fuel oil, but benzine and other light oils can be carried if required. There are four duplex oil pumps, situated in two pumprooms, fitted with Meyer's gas-freeing arrangement. The total capacity of the pumps is 1,200 tons per hour. Heating coils are fitted, in accordance with the latest practice, throughout the whole of the oil compartments and cross bunkers. Ample accommodation is provided, the captain and officers being situated in deck-houses amidships, whilst engineers and crew are in shelter 'tween deck aft.

The vessel is rigged as a two-masted 'fore and aft schooner, with the masts arranged for Marconi wireless installation, which is fitted on the latest system. Cold chambers for ship's provisions are arranged in aft end of shelter 'tween deck, with machinery installation by Messrs. J. & E. Hall, Ltd.

The machinery has also been constructed by Palmers Company, and comprises a set of quadruple expansion engines, balanced on the Yarrow, Schlick and Tweedy system, steam for which is supplied by four large single-ended boilers, arranged for burning liquid fuel on the Wallsend-Howden's patent system, and working under forced draught at a pressure of 220 lbs. per square inch.

The "San Hilario" is sister ship to the "San Fraternal" and "San Gregorio," which, together with a number of tank steamers of 9,000 tons, are already in active service distributing the petroleum products of the Mexican Eagle Oil Company to the world's markets.

PETROLEUM STOCKS AT BAKU.

THE following table shows the quantities of various products in store at the Baku refineries on October 1st :

				Poods.
Crude Oil	...	...	...	12,197,982
Kerosene	...	...	...	3,855,275
Lubricating Oil	...	...	...	1,461,742
Solar Oil, Light	...	...	...	918,725
" " Heavy	...	...	...	555,466
Benzine	...	...	...	837,999
Lubricating Residuals	...	...	...	191,091
Residuals	...	...	...	8,138,389
Other Products	...	...	...	37,041
Total	...	...	...	28,193,710

THE PETROLEUM TRADE OF BATOUM.

Mr. Consul P. Stevens' Report for 1912.

In general terms it may be said that trade in the Caucasus in 1912 followed more active and prosperous lines than have been known for several years past in consequence of the rise in prices of most classes of the products of the country.

Throughout 1912 all sections of industries were fairly, though not abnormally, active, and the statistics of the various industries of the country show slight progress on the figures of the preceding year.

It is to be assumed that the general improvement in business, which was much less marked here than in Europe, would have done still better had not the Italo-Turkish war continued so long and the Balkan war intervened towards the end of the year. The temporary closing of the Dardanelles naturally had its detrimental effects on trade and influenced the financial interests of most of its branches.

On the whole, however, the results are the best obtained for several years, and one or two of the old-established and leading industries, such as mineral oil—in regard to which I shall speak later—were especially prosperous during the period under review.

The port works at Touapsé, taken out of the hands of the French concessionnaires—who failed to work up to the terms of their agreement and were compelled to relinquish the enterprise—were slowly pushed forward during the year by the State. This port, in all likelihood, will come into prominence before very long. It is estimated that the annual shipment of merchandise at Touapsé, on completion of the Armavir-Touapsé railway, will reach 100,000 tons per annum. This quantity of goods is likely to be increased when traffic on the Stavropol-Armavir line is opened. A properly protected harbour at Touapsé, therefore, is essential, all the more so as it is proposed to ship a large proportion of the oil production of the Maikop oilfields at the port.

No harbour works of importance were carried out at other points of the Black Sea east coast in 1912, and although much talk took place during the year concerning port improvements at Batoum, no actual work was taken in hand during the year. The repairs to that portion of the northern quay at which oil tank steamers load—and which yielded to its own weight in October, 1911, while deep dredging operations were being carried out alongside—were in course of progress throughout the year, and whilst this report is being written, are being brought to a conclusion.

The unsafe condition of the port should be made another matter of immediate concern. This question affects the interests of shipping to such an extent and is of such great consequence, that I must here again lay stress on the delays, inconveniences and danger to which, in bad weather, shipping in the port of Batoum is subjected. On these occasions the inner harbour is a regular death-trap for ships. It is of great moment

that this defect should be remedied without loss of time, and that the sums necessary for the purpose should take precedence over all other grants intended for expenditure on important, but less urgent, Batoum port improvement works.

Whilst obviously continuing to decline in prosperity, owing to the systematic exhaustion of its long-drained oilfields, the activity of the Baku oil industry was, nevertheless, very marked during the year 1912, and the conditions under which its development took place were, generally speaking, exceptionally favourable to oil producers. Prices of oil reached record figures during the year. Since the end of 1910, prices of crude oil rose from 14.4 to 38.39 c. ($3\frac{1}{2}$ d. to $9\frac{3}{4}$ d.), or by nearly 170 per cent. In 1912 mazut rose from 21.2 to 34.3 c. per pood ($5\frac{1}{4}$ d. to $8\frac{1}{2}$ d.), or over 60 per cent. In November, 1912, a slight decline in prices of crude oil took place, but the year closed with mazut at 38 to 39 c. per pood ($9\frac{1}{2}$ d. to $9\frac{3}{4}$ d.). The following are the prices that ruled on crude oil during the year 1912 compared with prices for the corresponding periods of 1911:—

			1911. Copecs.	1912. Copecs.
January	..	..	14.850	28.823
February	..	..	16.177	31.348
March..	..	..	17.365	34.797
April ..	..	..	18.487	33.099
May ..	..	..	20.347	34.940
June ..	..	..	21.933	36.272
July ..	..	..	24.563	37.296
August	..	..	27.261	35.961
September	..	..	28.411	36.733
October	..	..	24.426	36.382
November	..	..	24.496	38.337
December	..	..	25.760	38.390

These abnormally high prices were accompanied by an increase in production owing to the greater activity exhibited by producers in boring new wells. Another marked feature of the industry during the year under review was the part taken by new territory in contributing towards the increase of production. The quantity of crude oil produced in 1912 was about 479,000,000 poods (about 7,725,000 tons) against about 466,000,000 poods (about 7,516,000 tons) in 1911.

The total yield from new wells in 1912 is said to have been 55,200,000 poods (about 890,322 tons), or over 12 per cent. of the total quantity produced by the fields forming the Baku oil territory. This increase in production was the direct result of the enhanced prices of petroleum products which ruled throughout the year and directly points to the producers taking advantage of the favourable situation to increase production by drilling new wells.

On the other hand, despite the increase in production, the petroleum consuming markets of Russia experienced a very great scarcity of oil throughout the year, and

many consumers of liquid fuel were compelled to fall back on coal for fuel purposes—a very expensive measure, in view of the coal famine experienced throughout Russia. Shipments of petroleum products from the Baku oil territory to the home consuming markets were on the decline throughout the year, although quite the reverse was taking place in the production of crude oil at the wells. The shipments up to date of close of navigation were 65,000,000 poods in March-April, 1912; 60,300,000 poods in May-June; 53,600,000 poods in July-August; and 46,800,000 poods in September-October. Petroleum producers attribute this decrease in shipments to their anxiety to replenish their stocks of oil at Baku, which had become depleted. For further particulars concerning the Baku oil industry and trade, I have to refer the reader to the report of the Acting Vice-Consul at Baku, which is appended hereto.

The Grosni oilfields produced about 65,000,000 poods of crude oil in 1912, or about 10,000,000 poods less than they did in 1911. This decrease in production is accounted for by the unexpected appearance of large quantities of subsoil water, which flooded many of the oil-bearing strata.

The Maikop oil territory showed no signs of increased productiveness during the year 1912. The production of the few oil-yielding wells in the district did not work out at more than 9,000,000 poods, which is not very promising considering the immense amount of money spent in connection with oil enterprise in the district. It is to be hoped the amalgamated companies will be more successful with the deeper drilling operations now in course of progress.

The production of Cheleken was close upon 12,000,000

poods (194,000 tons) in 1912. These results are reported to have disappointed those engaged in the oil industry of the island, who expected the output would be considerably in excess of these figures.

Mineral oil prospecting work was carried out by British companies in 1912 on fresh territories situated near Anapa and Taman in the Kuban province. Time will show how far those who have placed money in this territory are justified in risking capital for the purpose of developing the fields and proving whether they are sufficiently petroliferous to warrant a continuation of their enterprise on an extensive scale.

The exports from Batoum of petroleum products, manufactured at Baku, show an appreciable decrease of 49,546 tons on the figures of 1911. This is to be attributed to the decline in the demand for Russian kerosene in cases and cans in Europe, owing to other sources of supply, to prevalent high prices, to complications in Turkey, the consequent unsettled conditions of the Near Eastern markets, and to the caution exercised by exporters in the question of avoiding accumulation of stocks of oil in Turkey. The number of cases and cans with petroleum shipped from Batoum in 1912 was 1,400,000 cases and 3,200,000 cans.

The new company, which acquired in 1912 the business of the Caspian and Black Sea Naphtha Industrial and Commercial Society, have again set up a small case and can-making factory, and commenced shipping illuminating oil towards the end of the year. At present this enterprise has been undertaken on a small scale, but is capable of development should business prove prosperous.

MOVEMENT OF PETROLEUM PRODUCTS AT BATOUM DURING THE YEARS 1911-12.

	Arrivals from Baku.		Exports to Foreign Countries.		Exports to Russia.	
	1911.	1912.	1911.	1912.	1911.	1912.
	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.
Illuminating oils	109,604,126	95,939,258	99,278,501	86,574,413	14,477,460	7,883,505
Lubricating oils	49,223,344	53,532,983	48,225,650	47,722,188	958,456	664,323
Naphtha residues.. .. .	16,691,946	16,064,902	16,021,767	12,765,757	371,233	325,049
Crude oil	4,311,143	3,587,671	7,847	—	7,930	9,531
Other petroleum products	—	—	64,634	44,222	7,097	—
Total	179,830,559	169,124,814	163,598,399	147,106,580	15,822,176	8,882,408

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THE BAKU PETROLEUM INDUSTRY DURING 1912.

STATISTICAL REPORT BY MR. VICE-CONSUL WALLIS.

THE production of petroleum being the main industry of Baku, on which is dependent the greater portion of the trade of the city and the majority of the minor industries, it is at once evident that with a slightly increased production, distributed over an increased number of producers, with much higher prices for the oil itself, the year 1912 has been one of general prosperity such as has not been seen since the earlier days of the petroleum industry, when the cost of producing oil was so low as to leave a handsome profit on the very low prices then ruling for that product.

A wave of speculation seems to have swept over the town. Formerly only a comparatively few speculated in buying and selling crude oil, but with the improved prospects of oil-producing companies, general attention was turned to the shares of those concerns. There was a big advance in the prices of all Russian shares, but more especially of oil shares, in which there has been an absolute boom. Producing company after producing company was sold at enhanced prices, and more than one new company was registered in the United Kingdom, the shares of which were intended for Russian consumption. There was a big break in prices on the outbreak of hostilities in the Balkans, but the losses here were not considerable, as speculators had mostly got in at comparatively low prices, the result being that in the majority of cases there was no actual loss, but profits were not so large as had been anticipated.

The production of petroleum from the oilfields, viz., Balahani-Sabounchi-Romani and Bibi-Eybat, shows a slight decrease, namely, 6,000,000 poods (97,000 tons), or $1\frac{1}{2}$ per cent., but the development of Sourahani continues, and the production from this field has risen from 21,000,000 to 34,000,000 poods (about 340,000 to 549,000 tons), although the production of gas has naturally fallen, only five-eighths of the previous year's quantity being available during 1912.

The production from the outlying fields of Binagadi, Holy Island and Cheleken also show an increase, although these figures can only be estimated, as these districts are not subordinate to the Petroleum Producers' and Refiners' Association. The production can, however be taken at 26,000,000 poods (about 418,000 tons) during 1912, as against 20,000,000 poods (322,000 tons) in 1911, the major proportion being contributed by Cheleken.

The total production, therefore, available at Baku during the year 1912 was 479,000,000 poods (7,726,000 tons), or an increase of 2.8 per cent.

As is always noticeable when high prices are ruling there was a marked increase in drilling activity. The numbers both of new wells started and new wells completed show an increase as compared with the figures for 1911, as also the average number of wells in exploitation. The average daily production per well, however, shows a decrease of over 10 per cent.

The increase in boring operations took place, it should be pointed out, mainly on the northern fields at comparatively low depths. The average depth of the new wells completed was only 1,232 ft., whereas wells are now in process of drilling at Bibi-Eybat which are going down to or even already over 400 sagues (2,800 ft.)

In the ordinary way, when prices fall, drilling operations are stopped by many firms for lack of the necessary financial resources, to be started again when prices improve, with the result that the increased production brings the prices down again. At present we are witnessing continued activity in drilling, whilst there are no signs of prices breaking.

Offers are being made by representatives of an American rotary drill system (clay-flush, the water-flush systems tried here have not been successful), who claim to go down in months to depths which require years when drilling under the present system in practice here. Several contracts have already been concluded, and if they should be successfully carried through it may revolutionise the business of drilling contractors.

Previously forward oil contracts were based on a fixed price, only half of the difference (excess) between that price and the average monthly price being paid to the seller. For 1913 very few forward sales have been yet made, but those that have been concluded have been on the basis of average monthly prices with a minimum of 30 copecs per pood ($7\frac{1}{2}$ d. per 36 English lbs. guaranteed).

Below are the average prices for 1912 :—

	Over the year. Copecs per pood.	Navigation only. Copecs per pood.
Crude petroleum (ordinary light)	35.2	—
Petroleum residuum (mazout) ...	34.85	36.14
Kerosene (in tank-cars) ...	42.37	—
„ (in steamers) ...	—	42.33

Great activity is to be remarked in the staking-out and selling of oil claims, to which a great impetus was recently given by the acquisition of several blocks of claims by a big Anglo-Dutch oil combine. Near Baku the centre of interest has verged from the northern part of the so-called Djengi field towards the south, whilst Adjikabul and Salyani are now attracting great attention. Much speculation is going on in land between Sourahani and the sea—to the east, namely, in the districts of Beena and Kala, but this land appears to be the least promising.

Test borings are being drilled on various parts of the island of Cheleken, which has proved a disappointment for several firms; but, on the other hand, this island must certainly be included among the recognised producing fields.

Naphthadag (Petroleum Hill) still remains to be proved from a commercial point of view.

During the spring of 1912 an exhibition was held in this town, chiefly for internal combustion engines. Many British machines were exhibited and with success.

The trade in engines of internal combustion is still progressing, the British makes of both oil and gas motors easily holding their own, but the heavier engines of the so-called Diesel type appear to be monopolised by Russian engineering works. British pumps, more especially transmission pumps, are still selling well.

Wire ropes, belting and electric appliances are shut out by the prohibitive tariffs, but an American electric manufacturing company has recently secured a large proportion of the local electric business; they built works in Russia some little time ago. The local British wire-rope factory is supplying ropes outside Baku.

The negotiations for syndicating wire ropes and allotting each factory a fixed proportion of the total trade have so far been successful. Wire ropes, oil and gas motors and pumps are now practically the only articles in constant demand on the oilfields, regarding which there is not a combination or understanding in the trade in question to the detriment of the purchasing oil-producing firms. This is interesting, as it was practically the big firms distributing petroleum products who first showed Russian consumers the effects a combination of the producers or sellers could have on prices.

The production of crude oil during the years 1911 and 1912 has been as under :—

	1911. Poods.	1912. Poods.
Balahani-Sabounchi-Romani ...	322,500,000	314,300,000
Bibi-Eibat oilfields ...	102,500,000	104,700,000
Total ...	425,000,000*	419,000,000
Sourahani field ...	21,000,000†	34,000,000
Total ...	446,000,000	453,000,000
Cheleken, Holy Island and Biragadi (estimated) ...	20,000,000	26,000,000
Grand total ...	466,000,000	479,000,000

* Inclusive of fountain oil, 10,300,000 poods in 1911 and 12,000,000 poods in 1912.

† Inclusive of gas (equivalent), 3,832,000 poods in 1911 and 2,383,000 poods in 1912.

The following details of the Balahani-Sabounchi-Romani and Bibi-Eibat oilfields are interesting :—

	1911.	1912.
New wells started ...	191	252
" " completed ...	135	227
Average (monthly) number of wells in exploitation ...	2,225	2,412
Total number of feet drilled... ..	312,284	374,878
	Feet.	Feet.
Average depth of new wells completed	1,337	1,232
	Poods.	Poods.
Average (daily) production of new wells completed ...	1,394	983
Average (daily) production of all pro- ducing wells ...	539	480

ROUMANIAN PETROLEUM PRODUCTION DURING OCTOBER.

THE production of crude oil in the Roumanian oilfields during October amounted to 167,653 tons, as against 153,000 tons obtained during September, thus showing an increase of 14,653 tons. The production of the principal firms was as under :—

	Tons.
Steaua-Romana ...	34,608
Colombia ...	9,036
Astra-Romana ...	40,626
Romano-Americana ...	36,913
Concordia ...	6,754
Orion ...	10,459
Roumanian Consolidated Oilfields, Ltd. ...	6,150
International ..	3,795
Alpha ...	2,619
Aquila Franco-Romana ...	1,275
Nafta ...	2,664

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THE MAIKOP VICTORY OIL COMPANY, LTD.

IMPROVING PROSPECTS OF THE MAIKOP FIELD.

THE third ordinary general meeting of the Maikop Victory Oil Company, Ltd., was held last week at Winchester House, Old Broad Street, E.C., Colonel Richard H. Rawson, M.P. (the Chairman), presiding.

The Secretary (Mr. J. Murray) having read the notice convening the meeting and the report of the auditors.

The Chairman said: Gentlemen,—In rising to move the adoption of the report and accounts, which, I presume, you will take as read, I wish to say, on behalf of myself and my colleagues on the Board, that no one regrets more than we do the fact that we are not in a position to recommend a dividend on the year's working. As from time to time statements are published in the Press calculated to cause anxiety to some shareholders in Maikop companies, I and my colleagues wish to place before you the fullest possible information in our power, and also to tell you exactly how we view the present position and the prospects of our company, and I think you will find that the latter do not justify pessimism on our part. The misfortunes and difficulties with which the company has had to contend during the year covered by the accounts have been exceptional. To begin with, reference has been made time and again to the abnormally bad weather which was experienced last year and its effect on drilling operations and production. As an example I will take the delay in commencing work on plots 387 and 532, the contemplated acquisition of which was alluded to at the last general meeting. The purchase was completed last autumn, and we were in a position as regards plant, machinery, materials, etc., to commence work immediately, but such was the state of the roads that several months elapsed before it was possible to transport the materials to the plots, and, as a consequence, drilling was not commenced on these two plots until the middle of March. In other words, six months were absolutely lost to us owing entirely to the exceptional climatic conditions. This is by no means an isolated instance. The same conditions have applied more or less to all our operations, and especially so in connection with the work on 489, our original producing plot. This plot, as you may know, is situated on a very steep hillside, so that during the rainy weather it is a matter sometimes of days to transport casing and heavy machinery from one part of the plot to another. I am glad to say that during the past summer these conditions have improved and satisfactory progress has been made with the development work, but it takes time to attain results. Some shareholders have expressed their anxiety regarding the likelihood of a continued output from our original producing plot 489. It is true that the production therefrom has fallen seriously, but, in the opinion of our present management, we have by no means exhausted this area, nor have we, as a matter of fact, yet defined the actual extent of the oil beds thereon. In any case, whatever output may be obtained from new wells, we can safely calculate on a steady production from this plot for several years to come.

It has been a very great disappointment to us that we had to suspend drilling in well No. 5 at over 2,100 ft. It was our intention to carry this well to at least 2,500 ft., but the fates were against us. A set of drilling tools was lost in the well, and after fishing unsuccessfully for several months we were reluctantly compelled to abandon the idea of deepening the well, and decided to withdraw the lower casing. However, we cannot say that the well is yet lost to us, because we intend to try and exploit the oil source which was passed at about 1,400 ft. We do not yet know, however, whether a payable production can now be obtained from that horizon, as there is the danger that the source in this well has been more or less sealed by the mud caused in drilling to the lower depth. Now, to turn to the position with regard to the properties acquired from the Maikop Spies Company, Ltd. A wave of pessimism swept over a great many people interested in this field on the announcement by the directors of that company that they were quitting the district, and, therefore, you will no doubt be looking to me for an explanation of the reasons which influenced us in taking over their

producing properties. It is quite true that two wells out of five drilled on one of the plots were unproductive, but in our opinion such an experience is no basis for the assumption that there is no more oil to be obtained from the property. As a matter of fact, the late owners themselves must have had some confidence in this, otherwise they would not have accepted payment of the balance as and when oil was produced. Although we have not yet completed any fresh wells since we took the plots over we have managed to considerably increase the output from the old wells. The value of half the gross production from these plots which has accrued to the Maikop Spies to date represents a sum of about £4,500, so that if the present output continues, and without allowing for any production from the new wells now drilling we ought to pay off the balance of the purchase price in about seven or eight months from half the production. That, however, is not all. For our £24,000 we get not only the three plots, two of which at any rate are producing properties, but also a large amount of plant, machinery, casing materials and buildings, the valuation of which amounts to about £18,000. In other words, we pay £6,000 for 81 acres of oil lands, with a present production of equal to 800,000 poods per annum, worth at current prices about £35,000—not a bad bargain I think you will agree. As plot 488 practically adjoins our other producing area, we are able to run both properties on a minimum expense. We have also installed a system of gas compressors on the producing plots, which will reduce the cost of fuel enormously. No doubt Mr. Tweedy, who has just returned from the field, and who has had this matter specially in hand during his visit to the properties, will give you some idea of the remarkable economies already obtained by the installation of this system. We have two new wells going down on plot 488, the deeper of these is 661 ft., and the oil level should be reached at about 850 ft. Regarding plots 533a and 533b, these are situated in what is known as the heavy oil area. The production from this district has always been a matter of difficulty on account of the nearness of a water stratum to the oil source and the consequent risk of the means taken to shut off the water proving unsuccessful. That even this difficulty, however, can be successfully overcome is shown by the fact that a well on one of the plots here which we have purchased from the Maikop Spies has been in production for some considerable time, and this well is at present giving about 300 poods per day. Lately a well drilled by a Russian firm on the southern boundary of plot 533 has come into production, and we hear that it is now giving about 300 poods per day also. As our well is situated on the northern boundary of the plots, and the new producing well is on the southern boundary, favourable results may reasonably be expected throughout the area of the two otvods we have acquired on plot 533, and very probably also on plot 532, on which we have at present a well down to 615 ft.

Now to turn to the deep drilling operations. The drilling of isolated wells many miles apart would, in our opinion, give a very false impression as to what results can be looked for from the deeper sources. Oil men know that it is possible for a good producer to be brought in a short distance away from an unsuccessful well, and this occurs in all oilfields. Therefore, better by far work out gradually from where it is known oil will be found at depth. The deep drilling operations so far accomplished have provided us with one fact, which is, that in the district of plot 108 oil in commercial quantities undoubtedly exists at a depth of 2,250 to 2,500 ft. This company and others of the Anglo-Maikop group have, therefore, combined to take over plot 120, and they are drilling a well on that plot with the special object of exploiting the oil source which was discovered on the adjoining plot 108. I should like you to understand that, in our opinion, the Maikop Deep Drilling Company's well on 108 can only be considered as an exploratory well, and that on account of the small diameter of the casing a large production therefrom cannot be expected. The good drilling progress made on plot 120—1,322 ft. in four months—is a good example of what can be done under favourable conditions. Our present production, based

on the current market price, represents a gross income of £68,000 per annum, as against £50,606 last year. I am merely taking the present production rate, but we hope for a considerable increase in the near future, as at the present moment we have work going on in six wells. I think, therefore, you will agree with me the outlook is favourable, and, given ordinary luck, we ought to be able to present to you at the next meeting a much rosier report than that now before you.

I now propose, "That the balance-sheet and profit and loss account for the period ended 13th July, 1913, as submitted to this meeting, be received and adopted," and will ask Mr. Tweedy to second the resolution.

Mr. George Tweedy (managing director) said: Gentlemen,—I have much pleasure in complying with the request of the chairman. As you are aware, I have only just returned from a two months' visit to the field, and endorse in every particular the detailed account of the company's operations which the chairman has given you. Referring to his remarks on our recent work in connection with gas compressors, I may say that the consumption of oil for fuel on our plot 489 before we installed the compressors was over 8,000 poods per month. The consumption is now only 1,600 poods per month. On plots 488 and 533 (taken over as from 1st-14th July last) the consumption for the three months ended 30th June was at the rate of 12,967 poods per month, whereas in October the quantity used was under 6,000 poods, and I hope by the end of December it will be reduced to 1,500 poods per month. In money the saving already effected represents, at present prices, for this company no less than £8,500 per annum, and when we complete our arrangements, we hope to effect a further reduction representing about £2,800 per annum. Much of the oil fuel at present used on plot 489 is for the smiths' and mechanic shops and for the workmen's dwellings, etc. We are arranging installations to supply gas for these purposes also. I may here mention that the gas we are taking from the wells is much more than sufficient for our fuel requirements, and we are now making experiments with a view of extracting the petrol from it. Now I come to matter which may be considered controversial. Recent comments with regard to the Maikop field appeared to have created the impression that a new well coming into production near a well already producing adversely affects the output from the first well. On this point I wish to place before you a concrete example, which to my mind goes to upset the theory, or in any case to modify it. Well No. 3 of the Maikop Premier Oil Syndicate, Ltd.—and I am pleased to see the chairman of that company present—commenced producing nine months ago. Taking one week in each month from April till August the production figures were as follows:—1,200 poods, 2,505 poods, 3,940 poods, 4,692 poods, and for the week ended August 2nd 4,859 poods. During the following week, ended August 9th, well No. 4 came into production. This well is only 15 yards from well No. 3—I am taking an extreme case. The production from No. 3 for that week was 5,753 poods, or an increase of 894 poods. The production from No. 3 continued to increase steadily, and for the week ended 8th instant it gave 6,319 poods, or an increase of 1,460 poods since No. 4 started. No. 4 also continued to increase, and the production from this well for the same week was 9,630 poods. Please understand I do not argue that well No. 4 coming into use was the cause of increasing the production from No. 3. I only wish to show that No. 4 did not affect No. 3 adversely. I could give you many other examples, but I think these are sufficiently conclusive to combat the mistaken impression. I do not, of course, suggest that ultimately the source will not become exhausted. What I mean is that the effect, in any case for some years, of putting two wells near together is not what is generally understood. Oil percolates through the sand; it does not flow like, for example, a river. Every oilfield has its special peculiarities, and, apart from the difficulties of discovering the direction of the oil line in Maikop, which we know to exist over a distance of at least 20 miles, we have had to learn by experience the best way to treat the wells. I am not ashamed to acknowledge that we have made mistakes—who has not, particularly in operating a new oilfield—but I think the data we have now obtained, which data, I may say, have been most carefully tabulated, enable us to operate the Maikop field with comparative certainty; besides, we are, in fact, steadily extending the oil-producing area. As a matter of general interest, I give you the following total weekly production figures for the English producing companies during the past few weeks:—For week ended October 18th, 76,589 poods; October 25th, 85,375 poods; November 1st, 87,484 poods; November 8th, 84,351 poods. In addition, two Russian companies are also now regular producers. With regard to our own programme outlined by the chairman, I may mention that, subject only to unforeseen misfortunes, we ought to have the first of the new wells in oil next week, and the second during the following week.

I have been asked by several shareholders to give an explanation of the low market value of the shares of this company

I do not know that I am any more competent to give information on this question than any of those present. I will, nevertheless, give my opinion for what it is worth, and I do so not with the object of suggesting that anyone should purchase shares—I am a buyer, not a seller—but simply because I am distressed to see shareholders disposing of their shares at rubbish prices, bearing no relation whatever to their intrinsic value. The first, and perhaps the most serious, cause for the lack of confidence in Maikop Oil shares is that many companies were floated in 1910, more, I venture to say, with a view to making profits on the promotion than from the production of oil, as so often happens in all boom markets. The result has been that these companies have turned out disastrous failures, but they are no more evidence of the failure of the Maikop field than they would be of the Baku or any other field. In spite of this, I repeat what I stated at another meeting, where I gave official evidence to support my statements, that "Maikop has been more successful in its early years, so far as production is concerned, than any other oilfield in the world." In this connection I may give you the case of the Ural field, on which operations were commenced at the same time as the Maikop. You, of course, know the position of the Ural companies and the price of their shares, and you also know that on that field some of the greatest oil men in the world are operating, with ample capital, with the best managers and most skilled engineers, and yet the production this year in that district with all these advantages is almost exactly the same as that from the Maikop field. My second reason is that the public have been misled by irresponsible guides and by much adverse criticism, based on incorrect information. You might very properly ask me, what is the intrinsic value of the shares. To arrive at this, let us take the value of the realisable assets, quite apart from the property, quite apart from the production and quite apart from the prospects. Our cash and realisable assets—I mean by realisable the price at which we can actually dispose of them, even if Maikop were dead to-morrow—amount to no less than £52,000, whereas the market value of the shares represents only about £37,500. I have, of course, not included the realisable assets acquired from the Maikop Spies Company, referred to in the chairman's speech, which represents a large additional amount. I doubt very much if you can find another case of an oil company—except in Maikop—the shares of which stand at less than the break-up value of its realisable assets, apart from the properties and the production. Since the issue of the circular to the shareholders in September last advising them of the opinion I had formed as to the prospects, I personally have backed my opinion by the purchase of shares in the company—not only so, but—and I consider this is of much more importance—some Russian capitalists, who understand the petroleum business, have been so impressed by the prospects of your company that they have also bought large blocks of shares. I only mention these facts, which are more or less personal, to show you that, at any rate, I and others, who know the position and understand something of the oil business, have the courage of our convictions. In 1910 and 1911, when optimism regarding Maikop was rampant, I repeatedly warned shareholders of the dangers in connection with the development of a new oilfield. In June, 1910, February, 1911, and again in May, 1911, I stated at meetings of other Maikop companies that many of the wells then being bored would not be producers, and that in Maikop, as in any other new oilfield, we were bound to meet with many disappointments, but I have nevertheless consistently maintained that Maikop would prove to be, even from the upper sources, a permanent oilfield and that if we strike oil at depth fortunes would be made from it. I am more convinced to-day than I have ever been that my anticipations will be realised.

In conclusion, having given you a considerable number of figures and facts in connection with our business, I would like to summarise the position as a result of my recent visit to the field. The production from the upper sources is now increasing and it has increased during the last few weeks from 76,550 poods per week to about 87,600 poods, including the production of Russian companies, or equal to nearly 15 per cent. more. It has been proved by the well on plot 108 that oil is to be found at depth, and we are going for this oil on the adjoining plot 120. The impression that the present known upper oil sources are nearly exhausted and that the life of the field is very limited is the result of incorrect information. I have no hesitation in giving as my personal opinion that, barring misfortunes, such as abnormal weather, of which, knowing the country, I have a horror, we shall see a steady increase of production and that from these sources alone we shall have substantial profits for many years. I am in the proud position to-day of being able to say that eight of the Maikop companies, of which I am managing director have been for some time, and are at present, making substantial profits, and I am particularly pleased to tell you that your company is one of them. I beg to second the resolution.

The resolution was carried unanimously.

Mr. C. F. N. Peake proposed the re-election of Colonel R. H. Rawson, M.P., as a director of the company.

The resolution was seconded by Mr. Tweedy and unanimously agreed to.

Mr. Tweedy next proposed the confirmation of the election of the Hon. G. N. de Yarburgh-Bateson, J.P., as a director of the company.

Mr. Peake seconded the motion, which was unanimously approved.

THE BYRON OILFIELD OF WYOMING.

By Mr. A. P. ROGERS (NEW YORK).

Reprinted from
*The Engineering
and Mining
Journal.*

A RATHER interesting but small oilfield occurs in Northern Wyoming close to the Montana line. It is interesting principally on account of the high grade of the oil, which has a paraffin base and contains nearly 30 per cent. of gasoline and 40 per cent. of kerosene. It is known as the Byron oilfield, and is situated upon the Garland anticline, seven miles west of Cowley, Wyo., and similar distance east of Garland, upon the Cody branch of the Chicago, Burlington & Quincy Railroad.

The rocks of this section of Wyoming, and extending into Southern Montana, belong to the Cretaceous period. Through the Bighorn Basin, east of the National Park, the country has been folded into a series of small anticlines on the western slope of the large anticline of the Bighorn Mountains. It is in these isolated minor folds that the oil and gas deposits have been found. The Garland anticline extends from Polecat Creek southeasterly to the Shoshone River, a distance of about seven miles, having the form of a slightly elongated dome, with an elliptical plan, the major axis of which extends in a northwest-southeast direction. The sides and ends are gently inclined.

The crest of this anticline is in the black carbonaceous shales, near the base of the Colorado formation. Capping these shales, the heavy sandstones appear, but over the area where drilling operations have been conducted they have disappeared. Directly across the southern end of the anticline, the Shoshone River has cut a wide path, leaving a bluff 75 ft. high on the northern side of the river.

Two companies are now operating in this field, and they control practically all the desirable ground. About 30 wells have been drilled, but many of them were so poorly done with unsuitable rigs that they are of little value as a guide to the exact limits of the productive area. Few exact records have been kept of the holes drilled, so that the underground conditions can be judged only from the accounts of those who happened to be present at the time the work was done. Most of the drilling has been confined to the low river-bottom land on the southern end of the anticline. Several thin sands were penetrated until a depth of 600 ft. was reached, where sand 40 ft. in thickness was encountered, containing commercial quantities of oil under sufficient

gas pressure to force it to the surface without pumps. From one well during the past year an output has been maintained which supplies the refinery at Cowley with 165 barrels per day—the capacity of that plant.

The area from which a steady output of oil has been obtained is limited, but about one-half to three-quarters of a mile to the north of these wells and upon the higher ground, two gas wells were sunk, 1,670 and 1,675 ft. deep respectively, close to the crest of the anticline. They passed through a sand at 1,200 ft. from which a small amount of oil was obtained, and then one of them ran into a heavily-charged gas sand at 1,675 ft., which blew the tools out of the wells. A 10-in. casing was used at the surface, and the gas is said to be under a 655-lb. pressure; but now it has been capped and the gas is used only for illuminating and heating purposes in the neighbourhood. The sand from which this gas comes is probably the Cloverly formation. Whether it contains much oil has not been determined, but the indications are not favourable. Five wells upon a 40-acre tract of land in the river-bottom have encountered oil in the 600-ft. sand. One of them has been shot and produces all the oil now being disposed of. The other four wells are capped and have become clogged with paraffin.

The oil has a paraffin base and a gravity of 42 on the Beaumé scale. It is pumped seven miles to a small refinery on the railroad at Cowley. The refined gasoline, having a gravity of nearly 60, and the kerosene are sold to the Continental Oil Company for distribution. The refinery owners plan to increase their capacity in anticipation of an increased yield from the oil wells as soon as they have been cleaned out and put in proper condition.

Steaua-Romana.—The production of this company for the last week has averaged 1,118 tons, of which 541 tons were produced at Campina and 318 tons at Policiori. Well No. 232 of the Runcu Company is now in regular eruption, yielding an average of 16 tons a day.

Orion.—This company has distributed a dividend for the year 1912-13 of 6 per cent. on a capital of 13,500,000 francs. The company has decided to increase the latter by 1,500,000 francs. A further issue of 5,000,000 worth of new shares will be made in December, so that the total capital will attain the figure of 20,000,000 francs.

DETAILS OF BAKU PRODUCTION DURING AUGUST.

THE following are the details of the production of crude oil at the Baku oilfields during August, as published in the latest issue of the *Neftannoie Dielo* :—

						PRODUCTION (in poods).				Average per Well per Day.
						By Baling.	By Spouters.	Casual.	Total.	
Balakhany	...	...	...	...	868	4,545,458	—	230,471	4,770,929	193
Saboontchi	...	...	...	...	1,041	9,832,885	—	46,143	9,879,028	340
Ramany	...	...	...	...	293	4,131,528	671,384	35,350	4,838,262	795
Bibi-Eybat	...	...	...	...	301	6,483,703	—	9,774	6,493,477	779
Total	...	...	...	...	2,503	24,988,574	671,384	321,738	25,981,696	384
Total for August, 1912	...	...	...	...	2,529	34,536,586	605,401	370,764	35,512,751	482

The American Oil Market.

Saturday, November 15th, 1913.

THE crude market has undergone no further change in prices during the week, and the pipe line report for October constitutes the principal development in the crude situation. In the high grade fields, including New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana, the runs for the month amounted to 2,277,465 barrels, showing an increase of 95,466 barrels over the September yield. Deliveries for October were 5,311,826, or 327,316 barrels in excess of the period record. Stocks at the close of October reached a total of 10,055,788 barrels, showing a reduction of 18,251 barrels, as compared with the stocks at the close of September.

Our Mid-Continent correspondent, says the *Oil Paint and Drug Reporter*, places the output of the field as the highest in its history, and showing a steady increase. The October production amounted to 6,243,628 barrels, the highest amount for any single month. This brings the ten months' aggregate to 53,841,139 barrels, or more than two hundred thousand barrels in excess of the entire production for 1912. On the present prospects 1913 is expected to surpass all former years in output, wells drilled, profits and consumption. Total pipe line runs for October reached 4,662,628 barrels, making the total for ten months 42,450,450 barrels. Many conditions of the field, however, are not regarded as particularly favourable, and there are many elements to perplex the average operator concerning the future.

The week's review of the Gulf Coast field has been significant in the sharp gain in new production from a slightly increased number of new wells. The new production showing was credited to the completion of a gusher well in the Humboldt field of south-eastern Texas, starting at 10,000 barrels a day, but later declining to 7,000 a day. In the same tract, another well was drilled deeper, and increased the output from small capacity to 1,000 barrels a day. In the Panhandle Texas section Electra holds a strong lead, and its daily output is now close to 20,000 barrels. A feature of the week in the Panhandle territory was the drilling of a wildcat well near Albany, and over 100 miles south-west of Wichita. In the Louisiana fields, the best strike of the week was the 500-barrel well in the Jeems Bayou district. This completion is calculated to stimulate much additional work in the district

The total Louisiana fields are producing about 33,000 barrels a day, showing a declining tendency.

Refined Products.

There has been nothing to vary the character of the local market for illuminating oils over the interval, and conditions have presented little of noteworthy interest. General trading has continued along uneventful lines, but in the leading quarters it is stated that the volume of current business measures well up to the seasonable average. Quotations have been subjected to no recent change, and the market retains an apparently steady tendency.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. Nov. 15.	1913. Nov. 15.
Pennsylvania	\$1.60	\$2.50
North Lima	1.04	1.39
South Lima	0.99	1.34
Indiana	0.99	1.34
Illinois, above 30 degrees	0.87	1.30
Kansas and Oklahoma	0.70	1.03
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex	0.75	0.90
Californian, Coalinga light	0.65	0.60
" Kern River heavy	0.35	0.35
CANADIAN OIL	1.44	1.79

REFINED—FOR EXPORT.

In cents.	Week ended Nov. 15.	
	S.W. 110 test.	W.W. 150 test.
Bulk, New York ... per gal.	5.00	6.00
Barrels, New York, cargo	8.70	9.70
Barrels, Philadelphia	8.70	9.70
Cases, New York	11.00	12.00
Cases, Philadelphia	11.00	12.00

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29½

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000	\$11.15
1,000 to 3,000	11.25

REFINED—JOBBER LOTS.

In barrels, pkgs. included.	
130 fire test, S.W.	11½
150 fire test, W.W.	12
From tank wagons	8½-9

TOTAL EXPORTS.

	Current week.	Since Jan. 1, 1913.	Since Jan. 1, 1912.
	Gallons.	Gallons.	Gallons.
Crude	6,300,450	166,537,044	107,003,055
Refined	11,878,775	196,861,537	218,309,486
Naphtha	602,655	104,265,305	110,026,513
Gas oil	1,106,145	30,577,640	54,121,870
Fuel oil... ..	1,303,020	110,629,079	77,444,845

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HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

November 28th, 1913.

There are no alterations in the prices of Refined Petroleum, which remain as follows:—Roumanian, 8d.; Russian, 8 $\frac{3}{4}$ d.; Galician, 8 $\frac{1}{4}$ d.; American, 8 $\frac{1}{2}$ d.; American Water White, 9 $\frac{1}{2}$ d.

LUBRICATING OILS.

The quotations are unchanged, being for:—

No. 1 Russian, £12. 2s. 6d.

No. 2 Russian, £10. 17s. 6d.

American pale, from £9. 12s. 6d.

American dark, from £11. 2s. 6d.

American filtered cylinder, from £13. 12s. 6d.

FUEL OIL.

This is quoted 70s. per ton, in bulk, ex wharf.

GREASE-MAKING OIL.

The price is 80s. per ton, in bulk, ex wharf.

MOTOR SPIRIT.

The retail price in London for the first quality is 1s. 9d. per gallon, and for the second quality 1s. 7d. per gallon.

TURPENTINE.

American Turpentine market has been strong all the week, although present prices are a shade lower. For spot the price is 32s. 1 $\frac{1}{2}$ d.; December, 32s. 3d.; January/April, 32s. 10 $\frac{1}{2}$ d.; May/August, 33s. 9d.

LIVERPOOL.

November 28th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8 $\frac{3}{4}$ d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well.

INDIA.

BOMBAY, November 1st.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoo's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
" Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, November 27th.

Refined, in cases, is quoted at 11.25; Standard White, 8.75; Credit balances, 2.50.

PHILADELPHIA, November 27th

Standard White is quoted at 8.75.

GERMANY.

HAMBURG, November 25th.

The petroleum prices remain unchanged. The demand for kerosene begins to be lively, that for benzine decreasing. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, November 25th.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 44 $\frac{3}{4}$ –45 copecs per pood spot. Kerosene, 57–58 copecs Residuals, 42–42 $\frac{1}{4}$ copecs.

ROUMANIA. November 25th.

The export of petroleum is for the moment very restricted. The latest prices are:—

	Francs.
Crude oil from different fields, including pipe-line charges, per 100 kgs. Bushtenari	8.00–8.15
" " " Moreni	7.00–8.00
" " " Tzintea	5.50–6.25
" " " Policiori	5.00
" " " Bana	9.50–10.80
Paraffin	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	26.00–26.50
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	18.00–18.50
Residuals, f.o.b. Constanza	...	7.00–7.50
Gas Oil...	...	8.00

AUSTRIA. November 25th.

Crude oil is quoted 9.20 kronen spot. Kerosene, 32.50 kronen at Oderberg. Benzine, 740/750, 26 kronen; 750/760, 23 kronen, 760/770, 21 kronen, at Oderberg. Gas oil, 7.30 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, London, E.C., report under date November 27th as follows:—

The prospects of the market are decidedly brighter this week, as America has been buying a large quantity of oil plates for delivery over the next three months, and a considerable business has also been done for the Far East. We make prices to-day:—

1c 18 $\frac{3}{4}$ × 14	124 sheets	110 lbs.	13/4 $\frac{1}{2}$ per box.
1c 20 × 10	225 "	156 "	18/9 "

F.o.b. Swansea. Tin lining and iron hooping extra.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

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FOR THE WEEK ENDED NOVEMBER 24TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP-TION.	NO. OF GALS.	PORT WHENCE.
Nov.	LONDON—			
14	Anglo-American Oil Co. ...	Benzine	927,010	Kustendje
14	" "	Naphtha	990,970	"
18	L. Freeland ...	Lub. Gr.	540	Antwerp
18	A. Duckham & Co. ...	Lub.	1,200	"
18	Anglo-American Oil Co. ...	"	12,000	New York
18	Worthington & Boler ...	"	2,360	"
18	Langley, Smith & Co. ...	"	4,470	"
18	Scott's Wharf ...	"	3,750	"
18	Vacuum Oil Co. ...	"	28,690	"
18	" "	Fuel	400	Hamburg
19	Port Authority ...	Lub.	3,020	"
19	British and Foreign Wharf	"	920	Antwerp
19	United Shipping Co. ...	"	820	Riga
19	J. W. Cook & Co. ...	"	13,920	Philadel.
20	Hauseatic Maritime Agency	Lub.	80	Bremen
20	E. G. Boize ...	Lub. Gr.	650	Hamburg
20	S. Capon ...	Lub.	3,200	Fiume
20	Produce Brokers Co. ...	"	2,600	Philadel.
21	Ragosine & Co. ...	"	4,840	"
21	G. W. Sheldon & Co. ...	Lub. Gr.	300	"
21	Port Authority ...	Lub.	720	Hamburg
22	Lubricating & Fuel Oils Co.	"	541,700	Batoum
22	" "	"	12,500	"
22	" "	"	440,060	Kustendje
22	Anglo-Saxon Petroleum Co.	Crude	1,104,000	Trinidad
22	Lubricating & Fuel Oils Co.	Lub.	5,130	Philadel.
22	W. A. Sheldrick ...	"	6,550	"
24	Mercantile Lighterage Co. ...	"	15,600	"
24	Anglo-American Oil Co. ...	"	22,040	"
24	" "	"	58,600	New York
24	" "	Lub. Gr.	120	"
24	F. Chiesman & Co. ...	Lub.	17,120	"
24	A. Duckham & Co. ...	"	800	Antwerp
24	W. A. Sheldrick ...	"	70	"
24	L. Freeland ..	Lub. Gr.	1,390	"
24	Port Authority ...	Lub.	120	Hamburg
24	Hanseatic Maritime Agency	"	80	Bremen
	LIVERPOOL—			
18	Bennett's Haulage, etc., Co.	"	4,020	Philadel.
18	F. Leyland & Co. ...	"	4,750	N. Orlean
18	J. Light & Sons ...	"	2,000	New York
18	Vacuum Oil Co. ...	"	24,550	"
18	W. Gibson & Sons ...	Lamp	2,050	Boston
13	Huxley & Co. ...	Lub.	400	Antwerp
19	Pickford's ...	"	2,600	Baltimore
19	J. Light & Son ...	"	3,000	N. Orleans
19	Huxley & Co. ...	"	2,160	New York
19	Bowring Petroleum Co. ...	"	2,050	"
19	" "	"	2,070	Philadel.
20	A. Hopps & Sons' ...	M. Colza	9,320	Baltimore
20	" "	Lub.	20,630	"
20	Burnaby & Chantrell ...	Lub. Gr.	5,330	"
20	Valvoline Oil Co. ...	Lub.	4,100	New York
20	Anglo-American Oil Co. ...	"	17,360	"
20	Worthington & Boler ...	"	3,400	Galveston
21	Dee Oil Co. ...	"	2,400	Hamburg
21	Crew, Levick & Co. ...	"	4,030	"
21	Pickford's ...	Lub. Oil and Paste	750	"
21	Bramwell, Fern & Co. ...	Resid.	2,610	Quebec
21	Anglo-American Oil Co. ...	Lub.	4,000	Philadel.
21	Worthington & Boler ...	"	2,400	"
21	W. B. Dick & Co. ...	"	25,020	"
21	E. Harrison & Co. ...	"	14,000	"
21	Crew, Levick & Co. ...	"	40,880	"
21	" "	M. Colza	6,960	"
21	Vacuum Oil Co. ...	Lub.	18,030	"
21	Huxley & Co. ...	"	5,430	"
21	Bramwell Fern & Co. ...	"	1,550	"
21	Meade-King, Robinson & Co.	"	19,320	"
21	" "	Lub. Gr.	2,600	Baltimore
21	" "	M. Colza	7,800	"
21	" "	Lub.	7,800	"
21	D. Owen & Son ...	M. Colza	2,690	"
21	W. Lees & Co. ...	Lub.	240	"
21	Dee Oil Co. ...	Lub. Gr.	5,200	"
21	" "	Lub.	7,800	"
22	Valvoline Oil Co. ...	"	22,800	New York
22	" "	Lub. Gr.	210	"
22	Worthington & Boler ...	Lub.	8,000	"
22	Burnaby & Chantrell ...	Lub. Gr.	1,930	"
22	Vacuum Oil Co. ...	Lub. Oil and Gr.	19,240	"
22	White Star Line ...	Lub.	2,000	"
22	American Line ...	Lub. Gr.	50	Philadel.
22	" "	Lub.	2,000	"

DATE.	PORT AND IMPORTERS.	DESCRIPTION.	NO. OF GALS.	PORT WHENCE.
Nov.	LIVERPOOL—			
22	A. Hopps & Sons ...	Resid.	5,200	Quebec
24	Burnaby & Chantrell ...	Lub. Gr.	6,780	Galveston
24	R. Crooks & Co. ...	"	80	New York
24	Cunard Steamship Co. ...	Lub.	480	"
24	Anglo-American Oil Co. ...	"	13,000	"
24	Fellows, Morton & Clayton ...	"	1,490	Philadel.
24	Bennett's Haulage, etc., Co. ...	"	3,640	"
	BARROW—			
22	Asiatic Petroleum Co. ...	Benzine	963,100	P. Samboe
	BOSTON—			
21	W. F. Beaumont ...	Lub.	240	Hamburg
	BRISTOL—			
17	British Petroleum Co. ...	Lamp	1,686,500	Port Arthur
17	E. Stock & Sons ...	Lub. Gr.	140	Hamburg
17	C. Hill & Sons ...	Lub.	30,280	New York
17	Ford & Canning ...	"	8,330	"
17	H. Pritchard & C. ...	"	8,400	"
19	J. & R. Bush ...	"	49,000	"
19	" ...	Lub. Resid.	400	"
20	Pickford's ...	Lub. Oil	1,560	Hamburg
		and Gr.		
20	Ferris & Co. ...	Oil Sorts	160	Antwerp
24	C. Hill & Sons ...	Lub.	4,420	New York
24	" ...	Lub. Gr.	480	"
24	Ford & Canning ...	Lub.	5,200	"
24	" ...	"	420	"
24	H. Pritchard & Co. ...	"	6,300	"
24	First Anglo-Russian Oil Co. ...	"	4,490	"
24	Heaton & Co. ...	"	420	Antwerp
	GOOLE—			
20	Goole Steamship Co. ...	"	200	Hamburg
	GRIMSBY—			
21	J. Sutcliffe & Son ...	"	700	Antwerp
22	" " ...	"	230	Hamburg
24	" " ...	"	140	Antwerp
	HARWICH—			
18	Great Eastern Railway ...	Lub. Gr.	50	"
		Blocks		
18	" " ...	Lub.	280	"
20	" " ...	"	360	"
	HULL—			
18	T. Wilson, Sons & Co. ...	"	10,400	New York
20	British Petroleum Co. ...	Lamp	1,649,500	Kustendje
20	T. Wilson, Sons & Co. ...	Lub.	30	Riga
20	Wilson's & N. E. Railway ...	"	2,320	Hamburg
20	" " ...	"	2,840	Antwerp
22	W. Gilyott & Co. ...	"	5,540	New York
24	Wilson's & N. E. Railway ...	"	2,210	Hamburg
	MANCHESTER—			
18	W. Hodgson & Co. ...	Lub. Gr.	740	New York
18	" " ...	Lub.	5,380	"
18	Meade-King, Robinson & Co. ...	"	2,080	Hamburg
18	Bramwell, Fern & Co. ...	"	1,640	New York
18	D. Currie & Co. ...	"	380	Hamburg
18	J. T. Fletcher & Co. ...	"	400	Antwerp
19	Anglo-American Oil Co. ...	"	20,650	New York
21	F. Schofield & Co. ...	"	10,380	"
	NEWCASTLE—			
18	P. H. Matthiessen & Co. ...	"	220	Bergen
19	Tyne-Tees Steamship Co. ...	"	2,520	Antwerp
19	" " ...	"	12,080	Hamburg
	SWANSEA—			
19	Burgess & Co. ...	"	1,280	"
22	R. Turpin & Co. ...	"	3,000	New York
	ABERDEEN—			
18	R. C. Reid & Co. ...	"	1,000	Hamburg
	DUNDEE—			
20	D. Alexander & Sons ...	"	1,710	"
	GLASGOW—			
18	Anchor Line ...	Lub. Gr.	1,800	New York
18	Clyde Shipping Co. ...	Lub. Oil	4,340	Antwerp
		and Gr.		
	LEITH—			
17	G. Gibson & Co. ...	Lub.	410	"
20	" " ...	"	720	"
20	Jas. Currie & Co. ...	"	2,400	Hamburg
21	G. V. Turnbull & Co. ...	"	17,840	Philadel.
24	G. Gibson & Co. ...	"	120	Antwerp
24	W. G. Yooll & Co. ...	"	4,360	Hamburg
24	Jas. Currie & Co. ...	"	600	"
	BELFAST—			
22	G. Heyn & Sons ...	"	800	Riga
			9,152,930	

From Lloyd's

NOVEMBER 27TH, 1913.

THE "REVIEW" SHIPPING LIST.

The following abbreviations are used in this table: L. Left. Pd. Passed. Arr. Arrived. Sp. Spoken. T. Trading. Cl. Cleared
The Anglo-American Co.'s vessels marked thus (*). The Anglo-Saxon Co.'s tankers thus (Δ). Messrs. Lane & Macandrew's thus (□)

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
ADORNA	Antofagasta	San Francisco	L. Nov. 19	DEUTSCHLAND	Gothenburg	Baton Rouge	Pd. Dunnet Hd. Nov. 26
AMERICAN	Philadelphia	Antwerp.....	Cl. Nov. 17	DIAMANT	Tyne	Philadelphia	L. Nov. 26
APPALACHEE*	London	New York ..	Arr. Nov. 18	DONAX	Alexandria..	Aroe Bay ...	Pd. Perim Oct. 30
APSCHERON	Batonm	Antwerp.....	Arr. Nov. 20. In port Nov. 25	EBURNA	Tyne	—	Pd. Gibraltar Nov. 22
ARAL	Tyne	Knstendje ...	Pd. Gibraltar Nov. 23	EDWARD L. DOHENEY	New York ...	Tampico	L. Nov. 16
ARAS	Lisbon.....	Sabine	L. Nov. 14	EL LOBO	San Francisco	Payta	L. Nov. 14
ARCA	Rangoon...	Port Said ...	L. Colombo Nov. 21	EL SEGUNDO	Seattle	San Francisco	L. Oct. 21
ARTHUR VON GWINNER	Sea	Bremerhaven	Arr. Nov. 10	EL TORO	Hull	Tyne	Arr. Nov. 21
ASHTABULA*	Callao	San Francisco	Arr. ab't Nov. 25	ELAX Δ	Portishead ..	Barrow	Arr. Nov. 21
ASTRAKHAN	Dunkirk.....	Tyne	Arr. Nov. 24. In port Nov. 26	ELISE MARIE	Dantzic & Tyne	New York ...	Pd. Dunnet Hd. Nov. 22
AUREOLE	Port Arthur.	Antwerp.....	L. Nov. 23	EMANUEL NOBEL...	Hamburg ...	Batonm	Pd. Beachy Hd. Nov. 24
AZOV	San Francisco	Talara Bay...	L. Nov. 12	ENERGIE	Tuxpan	New Orleans.	Arr. Nov. 17
BAKU STANDARD...	Antwerp.....	Hamburg ...	Arr. Nov. 26	ERIVAN	Spezia	Batonm	Pd. Dardanelles Nov. 24
BALAKANI □	Manchester..	Port Reading & Jacksonville	Pd. Eastham Nov. 16	ESTURIA	Singapore ...	Freemantle	L. Nov. 15
BATOUM	Emden & NewportNews	Galveston ...	L. Newport News Nov. 21	EUPLECTELA Δ	Kustendje ...	Alexandria..	Pd. Dardanelles Nov. 24
BAYONNE	Kustendje ...	—	Pd. Dardanelles Nov. 25	EXCELSIOR	Tyne	New York ...	Pd. Dunnet Hd. Nov. 25
BEACON LIGHT	Port Arthur, Texas	Devonport ..	L. Nov. 20	F. A. TAMPLIN	Port Arthur.	Southampton	L. Norfolk, Va., Nov. 13
BLOOMFIELD	Tuxpan	New York ...	Arr. Nov. 23	FRANCE MARIE.....	Port Arthur.	Tampa ...	Arr. Oct. 27.
BORJOM.....	Alexandria..	Kustendje ...	Arr. Oct. 22	(Belgian Ship)	—	—	—
BRILLIANT (Br. Bq.)	Philadelphia.	Kobe	Arr. Aug. 10 for United States	FUMI MARU	Tarakan	Rangoon.....	Arr. Oct. 21
BRILLIANT	New York ...	Dantzic	L. Nov. 16	GEESTEMUNDE	New York ...	Tampico.....	Cl. Nov. 17
BRITISH SUN	Hamburg ...	Batonm ...	Pd. Dover Nov. 24 and in wireless com. Nov. 25	GENESSE*	New Orleans	Avonmouth	Cl. Nov. 8
BROADMAYNE	New York	Calais	L. Nov. 21	GEORGIAN PRINCE	Port Arthur.	Spezia	L. Norfolk, Va., Nov. 10
BUFFALO	Shanghai ...	San Francisco	Arr. Nov. 22	GOLDMOUTH Δ	—	Balek Pappan	Arr. Nov. 20
BULLMOUTH Δ	Singapore ..	Yokohama ...	L. Nov. 17	GUT HEIL	Tuxpan	—	Sunk after collision Baton Rouge April 28
BULYSES	Tyne	Malta	Pd. Gibraltar Nov. 21	H. C. HENRY.....	Los Angeles.	Balek Pappan	Arr. ab't Nov. 21
BURGERMEISTER PETERSEN	Hamburg ...	New York ...	Pd. Lizard Nov. 15	HAGEN	Kiel.....	Philadelphia.	Pd. Cape Wrath Nov. 22
BUYO MARU	Yokohama ...	Balek Pappan	Arr. ab't Nov. 26	HAINAUT (Barge) ..	—	—	T. between Tampico and Aransas Pass
C. A. CANFIELD* ...	Sabine.....	Tampico	L. Nov. 14	HARPORT	Tocopilla ...	San Francisco	Arr. Nov. 20
CALCUTTA (Br. Bq.)..	San Francisco	Yokohama ...	L. Nov. 10	HARRY	Boca Grande	Baltimore ...	Arr. Nov. 13
CAMILLO	Newport	Port Arthur, Texas	Arr. Nov. 25	LUCKENBACH	Galveston ...	Vera Cruz ...	70 miles S. of Galveston Bar Nov. 7
CAPTAIN A. F. LUCAS	—	—	T. United States, Pacific	HARRY WADSWORTH*	—	—	—
CARDIUM Δ	Singapore ...	Gibraltar ...	L. Nov. 15	HELIOS	Sabine	Hamburg ...	Arr. Nov. 19. In port Nov. 25
CARPATHIAN □	Amsterdam ..	Hamburg ...	L. Nov. 25	HERA	Kustendje ...	Alexandria..	Arr. Nov. 22
CAUCASIAN □	Tees	Philadelphia.	Arr. Nov. 26	HERBERT G. WYLIE	Tampico	New Orleans	Arr. Nov. 7. In port Nov. 16
CHARLES E. HARWOOD	Tyne	Tampico	24 miles W. of Lizard Oct. 5	HERMIONE	Port Arthur	Portland (Dor.)	L. Norfolk, Va., Nov. 23
CHARLOIS	Amsterdam	Philadelphia.	Pd. Dover Nov. 8	HESPERUS	Pisagua	San Francisco	L. Nov. 20
CHATHAM.....	New York ...	Tampico	Pd. Sand Key Nov. 13	HORLEY	New Orleans	Tampico.....	L. Port Eads Nov. 12
CHESTER	Antwerp.....	Port Arthur, Texas	Pd. Lizard Nov. 14	HOTHAM NEWTON	Port Arthur	Batonm	Pd. Gibraltar Nov. 19
CHEYENNE	ThamesHaven	Liverpool ...	Arr. Nov. 24	HYRCANIA	Batonm	Amsterdam & Hamburg	Arr. Amsterdam Nov. 23. In port Nov. 25
CHIRA (Tug)	—	—	Coasting Peru and Ecuador	ILLINOIS	Antwerp.....	New Orleans	Arr. Nov. 15
CIRCISSIAN PRINCE	—	—	T. W.C. South America	IMPEROYAL	—	—	T. River St. Lawrence
CITY OF EVERETT	Port Arthur, Texas	New York ...	65 miles S.E. of Jupiter Nov. 17	IMPOCO	—	—	Pd. Dardanelles Nov. 23 bound up
CLAM Δ	Hamburg ...	Kustendje ...	L. Algiers Nov. 23	IOANNIS COUTZIS...	—	—	On Govt. Service
CLEARFIELD	Tuxpan	Galveston ...	L. Nov. 23	IROQUOIS (Towing Barge Navahoe)	London	New York ...	Arr. Nov. 20
COMANCHEE	Belfast	New York ...	110 miles W. of Malm Hd. Nov. 21	J. B. AUG. KESSLER	Bizerta	Colombo	Pd. Perim Nov. 23
CONCH Δ	Suez	Abadan	Pd. Perim Nov. 18	J. OSWALD BOYD...	Clyde & Manchester	Tampico	Pd. Eastham Nov. 21
CONRAD MOHR	New York ...	Christiania..	Arr. Nov. 22	JULES HENRY	Rotterdam ...	Ymuiden ...	Arr. Nov. 22. In port Nov. 25
CORDELIA	Port San Luis	Antofagasta	Arr. Nov. 7	JUNO	Palembang ...	Miri.....	L. Nov. 16
COWRIE Δ	Singapore ...	Seattle & San Francisco	L. Nov. 13	KANAKUK	San Francisco	Balek Pappan	Arr. ab't Nov. 26
CURRIER	New York ...	Havana	617 miles S. of Scotland Light Nov. 16	KASBEK.....	Philadelphia.	Antwerp.....	Off Isle of Wight Nov. 27
CYMBELINE	Bordeaux ...	New York ...	Arr. St. John's, N.F., Nov. 26 for coal.	KIOWA	Hamburg ...	Tampico	Pd. Sand Key Nov. 25
CZAR NICOLAI II. ...	Batonm	Hamburg ...	Pd. Dardanelles Nov. 19	KIO MARU	—	Callao	Arr. ab't Nov. 21
DAGHESTAN	Antwerp.....	Kustendje ...	Arr. Nov. 24	KOMEFA	Antwerp ...	Kustendje ...	Pd. Dardanelles Nov. 25
DANUBIAN □	London ...	Port Arthur..	Arr. Nov. 26	KREMLIN	Ronen.....	Knstendje ...	Pd. Gibraltar Nov. 26
DAYLIGHT (Br. Bq.)	Hiogo ...	Hong Kong..	Arr. Oct. 20	KURA	Hamburg ...	New York ...	L. Nov. 13
DELAWARE*	Barrow	Novorossisk..	Arr. Algiers Nov. 23	LA CAMPINE	Antwerp.....	New York ...	Pd. Lizard Nov. 21
DELPHIN	—	—	Launched Rostock Oct. 16	LA FLANDRE	New York ...	Antwerp.....	L. Nov. 16
DERBENT	Batonm	Manchester ..	Arr. Liverpool Nov. 25				
DESATRA	Triest	Tyne	Arr. Nov. 26				

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From	For.	Latest Date and Position.
LA HESBAYE	Sabine.....	Antwerp ...	L. Nov. 10	ROMANY Δ	Kustendje ...	Rotterdam ...	Arr. Nov. 24
LACKAWANNA*	Liverpool ...	New York ...	20 miles W. of Brow Hd. Nov. 12	ROSALIND	Philadelphia.	London	Arr. Nov. 25
LE COQ □	Rouen.....	Tyne	Arr. Nov. 26	ROTTERDAM	Amsterdam ..	—	Pd. Dover Nov. 26
LOKI	Hamburg ...	Philadelphia.	Arr. Nov. 20	ROUMANIAN □	Kustendje ..	Avonmouth & Manchester	Pd. Dardanelles Nov. 24
LUCELLUM	Portland, Dor.	Persian Gulf	Arr. Port Said Nov. 24	ROUMANIAN PRINCE	Trinidad & Thames Haven	London	Arr. Nov. 25
LUCERNA	Rouen.....	Cardiff ...	Arr. Nov. 20. In port Nov. 26	RUSSIAN PRINCE ...	Galveston ...	—	L. Nov. 12
LUCIGEN	Portsmouth..	Kustendje ...	Arr. Nov. 22	SALAHADJI Δ	Sourabaya ...	Tarakan.....	L. Nov. 22
LUCILINE □	Kustendje ...	Rouen.....	Arr. Havre Nov. 25	SAMOSET	San Francisco	Moji	Arr. Yokohama Nov. 13
LUMEN	Tyne	Philadelphia.	Pd. Dunnet Hd. Nov. 17	SAN ANTONIO.....	—	—	T. Mexican Coast
LUTETIAN □	Novorossisk..	Havre	Pd. Gibraltar Nov. 23	SAN BERNARDO ...	—	—	T. Mexican Coast
LUX □	Bordeaux ...	Tyne	Arr. Nov. 25	SAN CRISTOBAL ...	—	—	T. Mexican Coast
LUZ BLANCA	Tyne & Amsterdam	Seattle ...	Arr. Nov. 10	SAN DUNSTANO.....	Port Arthur..	Puerto Mexico	Arr. Nov. 23
MAKKAVEI	Marseilles ...	Batoum	Cl. Constanti- nople Nov. 13	SAN EDUARDO	Puerto Mexico	Batoum	Pd. Sand Key Nov. 14
MANNHEIM	Hamburg ...	Philadelphia.	Pd. Lizard Nov. 11	SAN FRATERNO.....	Tuxpan ...	New York ...	Arr. Nov. 17
MARGARETHA	Braila	Cette	Pd. Dardanelles Nov. 23	SAN GREGORIO	Rotterdam ...	New York ...	Arr. Nov. 5. In port Nov. 15
MASCONOMO	San Francisco	Moji	L. Oct. 14	SAN RICARDO	Batoum ...	Constanti- nople	Arr. Nov. 22
MASSASOIT	Kuchinotzu ..	Calcutta.....	Arr. ab't Nov. 21	SAN SILVESTRE.....	Sabine & Norfolk	Avonmouth..	L. Norfolk Nov. 24
METEOR.....	Batoum	Vladivostock.	Arr. Mamla ab't Nov. 22	SAN TIRSO ...	Puerto Mexico & Algiers	Constanti- nople	L. Algiers Nov. 23
MEXICAN PRINCE..	Hankow	Palembang...	Arr. Shanghai Nov. 22	SAN URBANO.....	Tyne	Puerto Mexico	Pd. Dover Nov. 19
MIJDRECHT	Hamburg & Immingham	Braila.....	Arr. Nov. 23	SANTA MARIA	Port San Luis	Honolulu ...	In wireless com. Nov. 21, 2 a.m.
MINA BREA.....	Callao	Talara & San Francisco	At Callao Oct. 17	SANTA RITA	Port San Luis	Vancouver...	L. Oct. 25
MIRA	Savona	New York ...	Arr. Nov. 24	SATANTA	Hong Kong..	Calcutta.....	Arr. ab't Nov. 26
MITRA	Tyne	Port Arthur..	Arr. Nov. 26	SAXOLEINE	Philadelphia	Havre.....	Pd. Delaware
MOHAWK*	Campana ...	Tampico	L. Nov. 15	SEBASTIAN	—	—	B'water Nov. 16
MOHICAN	Copenhagen & Tyne	New York ...	Arr. Nov. 25	SEQUOYA	San Francisco	Amoy	Launched Dun- dee April 24, since complet'g
MUREX Δ	Singapore ...	Madras	Arr. Nov. 21	SERVIAN □	Port Arthur..	Manchester...	Arr. ab't Nov. 13
NARRAGANSETT ..	New York & London	Liverpool ...	Arr. Oct. 22. In port Nov. 1	SHABONEE	New York ...	Port Said ...	Pd. Eastham Nov. 21
NATICA	Singapore ..	—	Pd. Gibraltar Nov. 22	SIOUX.....	Sabine & New Orleans	Buenos Aires	Cl. Nov. 14
NEKO	Leith	S. Shetlands.	L. Monte Video Oct 17	SIRIUS (Ger.) ...	Kustendje ...	Copenhagen .	L. Port Eads Nov. 17
NELSON	New Orleans.	Porto Rico...	115 miles E. of Mississippi Bar Nov. 15	SOCONY	New York ...	Port Arthur..	Pd. Sagres Nov. 19
NEW YORK*	New York ...	Rotterdam ...	Cl. Nov. 15	SOYO MARU.....	Abadan	Sheerness ...	Arr. Oct. 19
NIAGARA	San Francisco	Chinkiang ...	L. Nov. 19	SPLENDOR	Genoa	New York ...	Pd. Dungeness Nov. 27
NORMAN BRIDGE...	New York ...	Tampico	Pd. Sand Key Nov. 9	STAG	—	—	Arr. Nov. 26
OBERON.....	Bilbao.....	Port San Luis	L. Nov. 3	STANDARD	Sabine.....	London	Ar Garston Nov. 26
OCEAN	Rotterdam ...	New York ...	Arr. Nov. 26	STROMBUS Δ	London	Port Arthur..	Pd. Dover Nov. 27
OILFIELD	Philadelphia.	Savona	Arr. Nov. 21	SULTAN VAN LANGKAT Δ	Abadan	—	Pd. Dover Nov. 26
OKLAHOMA	Port Arthur..	Philadelphia.	30 miles E. of Tortugas Nov. 13	SUNLIGHT (Br. Bq.)	Macoris ...	Liverpool ...	Pd. Perim Nov. 25
ONEKA	Narvik	Philadelphia.	Arr. Nov. 23	SURAM	Hamburg ...	Philadelphia.	L. Nov. 22
ORIFLAMME □	New York ...	La Pallice ...	L. Nov. 17	SUWANEE*	London & Plymouth	Philadelphia.	Pd. Lizard Nov. 24
OSAGE	Novorossisk & Nordenham	Rotterdam ...	L. Nordenham Nov. 25	SVIET	Batoum	Odes-a.....	Arr. Nov. 19
OTTAWA*	Maryport ...	New Orleans.	L. Liverpool Nov. 25	TECUMSOH	Philadelphia.	New York ...	L. Nov. 11
OURAL	Rouen.....	Kustendje ...	L. Liverpool Nov. 25	TELENE Δ	Singapore ...	Gibraltar ...	Arr. Nov. 12. In port Nov. 15
PALEMBANG	Singapore ...	Haiphong ...	L. Gibraltar Nov. 24	TEREK	Copenhagen .	Cardiff	L. Colombo Nov. 25
PATELLA Δ	Thames Haven & Bizerta	Port Said ...	Pd. Lizard Nov. 27	TEXAS	New York ...	Port Arthur (Tex.)	Pd. Isle of Wight Nov. 26
PAUL PAIX.....	New York ...	Calais	Arr. Nov. 24	TIFLIS	Thames Haven	London.....	Arr. Oct. 27
PAULA	New York ...	Swinemunde	Pd. Lizard Nov. 27	TONAWANDA*..	Tees & Sunderland	New York ...	Arr. Nov. 26
PAWNEE	Baton Rouge	Swinemunde.	Pd. Dunnet Hd. Nov. 16	TRINCULO.....	Vancouver..	Port San Luis	Pd. Dunnet Hd. Nov. 24
PECTAN	Port San Luis	Antofagasta..	Nov. 16	TRINIDADIAN.....	Tampa	Tuxpan	Arr. Oct. 22
PENNOIL	Tyne	Port Arthur..	L. Norfolk, Va., Nov. 21	TRITON	Rotterdam ...	Baton Rouge.	160 miles N.E. of Tuxpan Nov. 14
PETROLEINE	New York ...	Bordeaux ..	Arr. ab't Nov. 19	TROCAS Δ	—	—	45 miles W. of Ushant
PETROLEUM	—	—	Arr. Nov. 19	TURBO	Tsingtau ...	Hong Kong..	L. Nov. 23
PHOEBUS	Callao.....	Caleta Buena	Pd. Dunnet Hd. Nov. 27	UNCAS	Tientsin	Balek Pappan	L. Nov. 17
PINNA □	Manchester & Liverpool	New Orleans	Arr. Owers Nov. 21	VEDRA	San Francisco	Kuro	L. Oct. 19
PONUS	San Francisco	Hankow ...	Arr. Arica ab't Nov. 24	VILLE DE DIEPPE (Norwegian Barque)	Baton Rouge	Bremerhaven	Pd. Dover Nov. 26
POTOMAC*	Liverpool ...	Sabine.....	Pd. Old Head of Kinsale Nov. 23	VITRUVIA.....	Philadelphia.	La Pallice ...	Arr. Nov. 15
POWHATAN	San Francisco	Taku Bar ...	Arr. ab't Nov. 4	VOLCANUS	Avonmouth..	Philadelphia.	60 miles E. of Brow Hd. Nov. 22
PROMETHEUS.....	San Francisco	Pisagua	Brow Hd. Nov. 17	VOLUTE Δ	Palembang...	Padang	Arr. Nov. 22
PRUDENTIA.....	Tampico	New York ...	Arr. ab't Nov. 17	WABASHA.....	Balek Pappan	Hong Kong ..	Arr. Nov. 22
PURELIGHT	Port Arthur..	Dover	L. Nov. 8	WANETA (lt. Impoco)	San Francisco	Tientsin	L. Nov. 18
QUEVILLY (Fr. Bq.)	Havre	New York ...	Arr. Nov. 23	WAPELLO	New Orleans	Tampico	Arr. Nov. 6
RADIOLEINE II. ...	Rouen.....	Kustendje ...	Pd. Lizard Nov. 24	WASHINGTON.....	London	New York ...	Cl. Nov. 17
RANELLA	Shanghai ...	Tientsin ...	L. Nov. 9	WEEHAWKEN	Copenhagen .	Hamburg ...	100 miles S. of Brow Hd. Nov. 16
RENDOVA (Br. Bq.)	Seville	New York ...	L. Nov. 22	WILLIAM F. HERRIN	Saville	Cienfuegos...	Arr. Oct. 18. In port Nov. 25
RICHMOND	New Orleans	Campana & San Francisco	Arr. Nov. 22	WILLKOMMEN	Honolulu ...	Monterey ...	L. Gibraltar Nov. 12
RION	Liverpool ...	New York ...	Arr. P'ta Arenas (Mag.) ab't Nov. 26	WINAMAC.....	Tyne	Philadelphia.	L. Oct. 31
ROCK LIGHT □	Kustendje ...	London	Pd. Fastnet Nov. 22	WOTAN ...	New York ...	Port Said ...	Pd. Dunnet Hd. Nov. 14
			Pd. Dardanelles Nov. 25		Hamburg ...	New York ...	Arr. Algiers Nov. 8
							Pd. Lizard Nov. 23. In wireless com. Nov. 25

The Petroleum Review Directory.

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THE PETROLEUM REVIEW.

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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

The Baku-Batoum Increased Rates.

THE attitude of the Russian Government toward the export petroleum trade of the Empire is remarkable. One would imagine that, seeing the Government derives such great benefit from the exploitation of its oil areas, it would be willing to strain every nerve in an endeavour to foster and encourage the industry as much as possible. The reverse, however, is the case, and the consistent attitude which the Government has taken up, not for but against the well-being of the industry, stands out as one of the most glaring miscarriages of justice ever perpetrated upon any branch of commerce of international importance. Times without number has the voice of the oil producers gone up for modifications of certain conditions affecting the industry, and in almost every instance has the Government made the obligations even more drastic. Now we see a determination on the part of the State to strangle what little is left of Russia's export oil trade. For years there has been an agitation for the lowering of the Baku-Batoum kerosene rates, and after protracted sittings and interviews with the leading crude oil producers, the Government not long ago did actually reduce the rate to thirteen copecs per pood. The producers expected more, but were content with what little they succeeded in getting. Now, however, comes the news that the Trans-Caucasian State Railway authorities have increased the rate to 16 copecs per pood from Baku to Batoum. One really begins to wonder what is at the back of the heads of the Government advisors.

The Decline of Oil-producing Wells.

A MOST instructive pamphlet concerning the possible causes of the decline of oil wells has just been issued by the Washington Bureau of Mines from the pen of Mr. L. G. Huntley, and the matter contained therein is of such importance to those interested in the production of crude oil, that we intend reproducing the work

practically *in extenso*. It may not be generally known that the Bureau of Mines has been for a long time past carrying out technological investigations with a desire to bring about more efficient methods in the production, handling, refining, and marketing of petroleum and its products. The present paper deals with but one feature of the subject, yet undoubtedly one of the most important, since the decline of individual oil wells is the immediate or direct factor in the general decline of production throughout all fields. We have reason to believe that the instalments of this publication, which commence in next week's issue of the REVIEW, will be found exceedingly useful reading.

The American Navy and Liquid Fuel.

AFTER viewing oil fuel with a certain degree of favour for years past, the American naval authorities appear to have wholeheartedly gone over to liquid fuel, for during the present week we notice that Mr. Daniels, the Secretary of the Navy, recommends that it shall be authorised to acquire its own oil wells and refineries, so as to be in an independent position regarding "what seems fair to become the principal fuel of the navy in the future." He also calls attention to the increasing price of oil and its superiority, demonstrated by British ships, and mentions that the United States navy will soon use 125,000,000 gallons of oil yearly. With its unique geographical advantages, as regards supply, it has been a surprise to many that the United States naval authorities have not adopted a firmer attitude on the subject of liquid fuel years ago, for the experiments carried out at the time when the possibilities of liquid fuel were not so greatly appreciated as they are to-day eloquently demonstrated its superiority over coal, especially for men-o'-war, where speed and a wide range of action are essential points to success.

The Standard in California.

THE news that the Standard Oil Company of California has acquired the whole of the properties of the Murphy Oil Company—a Los Angeles concern—just at a time when their acquisition was being seriously considered by the "Shell" Company, has not unnaturally created widespread interest, not only in Californian oil circles, but also in this country, for it shows that the Standard are determined not to lose their supremacy as the most important concern operating in the oilfields of the Californian State. By this latest move the Standard will have an increased oil production of over 4,000 barrels daily. But the most important aspect of the deal is that this crude oil production was sorely needed by the "Shell" interests if their scheme of laying a pipeline from the Fullerton fields to seaboard was to become an accomplished fact.

NEW BULK OIL INSTALLATION AT HULL.

IN our last issue we published an editorial note respecting the new bulk oil storage depot at Hull, and we are now in a position to give additional details regarding the scheme, together with two interesting photographs kindly loaned by our contemporary *The Railway News*.

It appears that acting under its recently obtained Parliamentary powers, the North-Eastern Railway Company is erecting a gigantic oil storage depot upon



187 acres of land a little to the east of the new joint dock of the North-Eastern and Hull and Barnsley Railway Companies, which depot is intended to serve as an importing and distributing centre for the North of England.

The former chief engineer of the North Eastern Railway Docks in Hull, and now chief engineer to the Mersey Docks and Harbour Boards - Mr. T. M. Newell—originated the scheme, which when completed will rank as one of the largest in the country.

A special jetty as seen in the first photograph has already been constructed which projects 1,500 feet into the Humber, and at which vessels can be unloaded at any state of the tide.



In all there will be some twenty-five tanks, some of which as seen in the second illustration having already been completed. The tanks will each have a capacity of 5,000 tons, and ten will be specially utilised for liquid fuel storage. A railway line already connects the new storage depot with the new joint dock. Extensive warehouse, offices and repairing shops will also be included in the installation which when completed will add much to the importance of Hull as an oil port.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended November 29th was 114,000 poods.

SPIES PETROLEUM COMPANY, LTD.—The production for week ended November 30th, was 274,500 poods, or about 4,427 tons. The total production for the year from January 14th to November 30th, was 12,109,135 poods, or about 195,309 tons. The total production for the corresponding period last year was 14,831,865 poods, or about 239,224 tons. Price of crude oil at Baku is now 45½ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended November 29th was 21,451 poods, or 346 tons.

EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended November 30th was 103,000 poods, or 1,661 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended November 29th was 120,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended November 29th was 23,000 poods (371 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended November 29th was 123 tons.

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended November 30th was 10,059 poods, or 162 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended November 29th, 111,953 poods or 1,806 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest production for week ended December 2nd was 6,252 tons. Corresponding period last year, 1,755 tons. Total production to date for this year, 113,036 tons, last year 32,101 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended November 30th was 101,133 poods, or 1,631 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended November 29th was 6,700 poods or 108 tons.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended November 29th was 15,514 poods (250 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended November 29th was 1,944 poods (31 tons).

GERHARD & HEY,
OILFIELDS SHIPPING AGENTS,
Great St. Thomas Apostle
 (Off Cannon Street),
LONDON, E.C.

ESTABLISHED 1856.
 Telephone: City 8840 (4 lines).

Popular Systems of Petrol-Air-Gas Lighting.

(Special to the "Review.")

It can safely be said that, in spite of the severe competition of gas and electric light, the progress made in petrol lighting during recent years has been most marked, and to-day there is scarcely a hamlet throughout the kingdom in which may not be found an air-gas installation of one or other of the popular makers.

The use of the ordinary kerosene lamp has fallen somewhat into decay, but in its place has sprung up a light which for both brilliancy and economy admittedly stands far ahead of either electricity or coal gas. But though it is comparatively of recent date that the great advantages to be derived from petrol gas have been fully appreciated, the idea of utilising the lighter hydrocarbons for gas-making purposes is by no means new. As a matter of fact, as far back as the early thirties of the last century, Lowe took out a patent for manufacturing oil gas, and in the course of a few years other inventors came along with somewhat similar inventions.

But progress was indeed slow, and it was not until motor spirit began to be commercially marketed in this country that the real claims of petrol air gas commenced to receive general attention. Prior to this time the petrol was not uniform in gravity and vapour tension, and as a consequence there were several difficulties associated with petrol air-gas plants, which have now happily disappeared.

To-day the systems of utilising petrol for lighting purposes may all be said to have approached a state of perfection unexcelled by any other lighting agent.

Apart altogether from the economy effected by using petrol air gas, the question of safety is a most important subject. With ordinary coal gas the explosive element is ever present, while asphyxiation, due to escaping gas, is not an infrequent occurrence. When light is derived from petrol, however, complete safety is assured, since the gas itself is to all intents and purposes non-explosive, for it is only at a suitably arranged burner that the gas will ignite. Escapes, however, can easily be detected, for the petrol gas has a distinct though not unpleasant odour. Again, when lighting a burner there is no such explosion as one gets with ordinary coal gas—explosions which do so much damage to mantles—for if a burner be turned on several minutes before lighting there will not be the slightest suggestion of an explosion when a lighted match is placed at the burner, for it is only at that point that the petrol air gas is possessed of its lighting

properties. So much, therefore, for the safety of the light.

As to the cost of upkeep, this may be taken as practically nil, since, inasmuch as the installation has almost invariably to be operated by unskilled labour, the manufacturers of the chief plants have vied one with another in an endeavour to produce installations that are incapable of getting out of order, and from what we have seen of the installations hereafter briefly described, the inventors have succeeded in a marked degree.

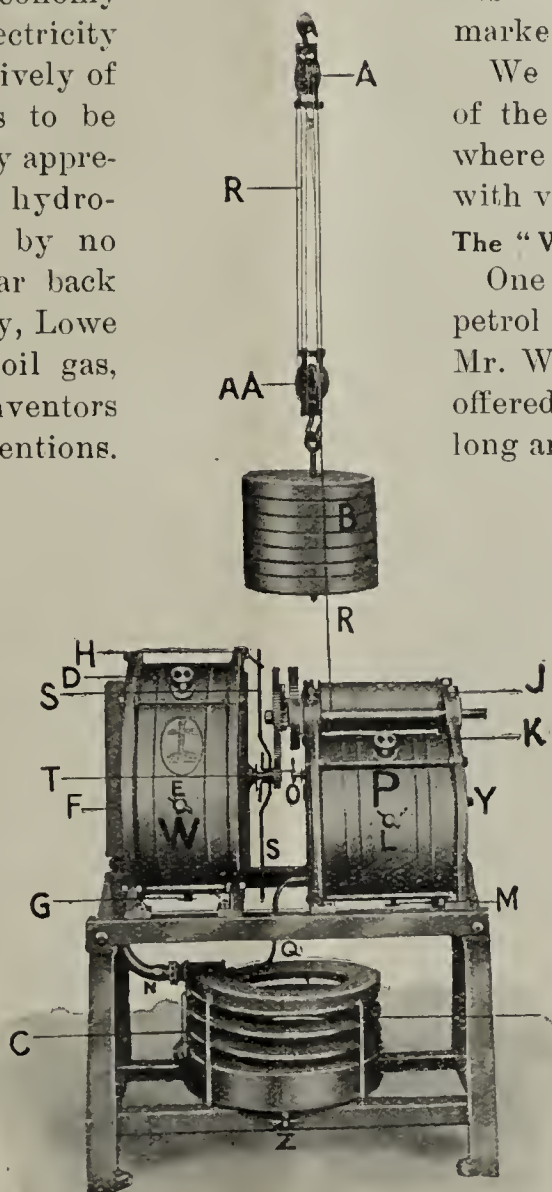
We will now proceed to describe several of the popular forms of petrol lighting, which, where it has been possible, are illustrated with views of the various machines.

The "Willett" Light.

One of the most well-known systems of petrol lighting is the "Willett," so-called after Mr. W. Willett, its inventor. The system, as offered to the public to-day, is the result of long and exhaustive tests, and the fact that the

"Willett" system is now installed in many public and private buildings both in the country and the colonies, as well as being in use for station lighting on four of the principal railways in England, speaks highly for both its efficiency and economy. Unlike many other systems, the "Willett" machine contains no gas-holder. The generator is so designed as to produce gas in the exact quantities and at the exact time that it is required for use; thus what is regarded as one of the greatest troubles in connection with petrol-air-gas lighting is avoided. As is known, petrol gas cannot be stored satisfactorily for any appreciable length of time owing to its tendency to stratify, the result being that a fluctuating

light is frequently caused by the use of a storage chamber. In the case of the "Willett" system this disadvantage does not occur, for assuming a 50-light machine be working with one or two burners only in use, and thirty other burners be simultaneously lighted, the machine instantaneously adjusts itself to the increased load, and this without any unsteadiness or fluctuation in the light. As may be seen from the illustration upon this page, the machine itself is of the simplest possible construction compatible with efficiency, and is built throughout of brass. The initials given in the illustration possibly need some slight explanation. W represents the air compressor, and P the petrol drum, while C is the carburettor. The petrol is regulated at O, the level of the petrol is indicated at Y, and N and Q are respectively the air

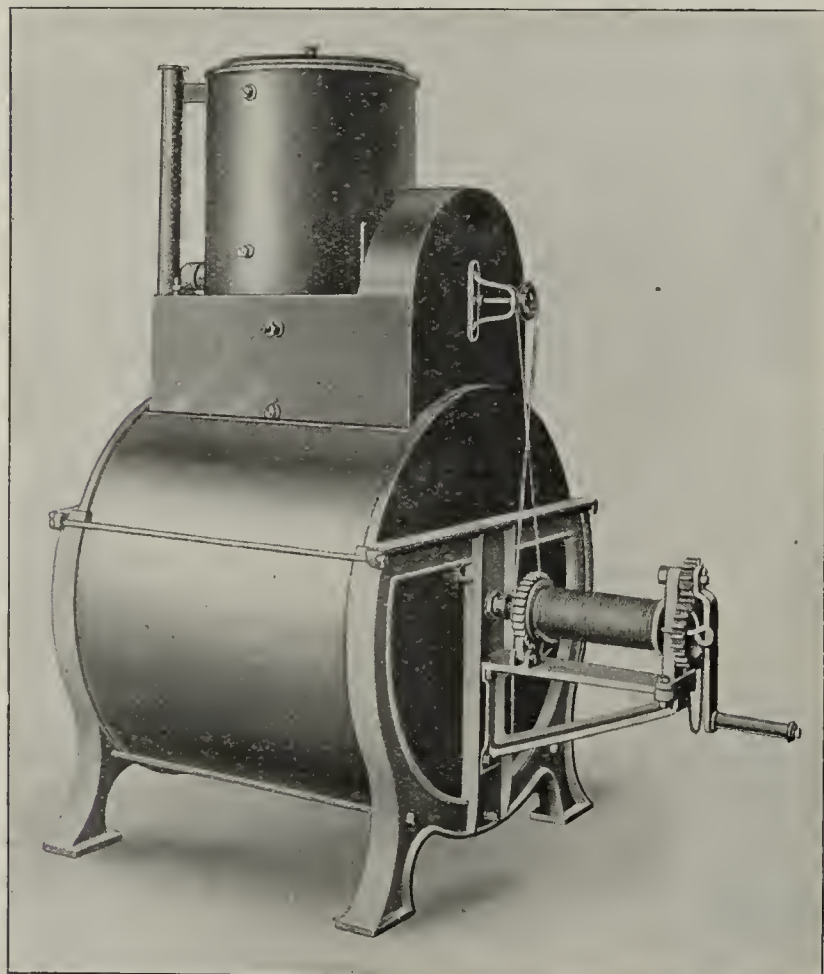


The "Willett" Petrol-Air-Gas Generator.

and petrol feed pipes. The motive power is supplied by the suspended weight B. The method of working is extremely simple, and experience has proved that the machine, even after years of continuous operation, needs no adjustment. The "Willetts" system is adapted for use with ordinary gravity motor spirit as opposed to special lighting spirit, and inasmuch as to-day motor cars are everywhere, no difficulty is experienced in obtaining the requisite supply of spirit.

"Petrozone" Patent Safety-Gas.

The "Petrozone" patent safety-gas is another of the popular systems of petrol lighting. The special feature of this system, which is being manufactured by the Gas Light & Power Syndicate, Ltd., 63, Farringdon Street, London, E.C., is that by means of a simple



Standard Apparatus for 100 Lights.

chemical process, the percentage of oxygen in the air used is greatly increased, with a result that in comparison with other gas systems, the remarkable strength of "Petrozone" is so apparent and so great that a much smaller quantity of gas is required to develop the desired amount of light, heat or power. By no other means is it possible to use oxygenated air, and consequently no other gas possesses equal efficiency, and as a result, instead of obtaining a gas with a heating value of 140 B.T.U. per cubic foot, or thereabouts, a gas is obtained which has a value considerably higher than that of coal gas. This fact is adequately vouched for by Messrs. Alexander Wright & Co., Ltd., who have made exhaustive tests in respect to the calorific (heating) power of "Petrozone" gas, and they have given their certificate that the average of the entire testings gave a value of 688.4 B.T.U. per cubic foot, nett. Therefore, the comparison of "Petrozone" with other gases for calorific power is as follows:—

Other petrol gases ...	140	B.T.U.	per cubic foot.
Coal gas ...	550	"	"
"Petrozone" ...	688.4	"	"

The significance of these figures cannot be over estimated. It means that the "Petrozone" apparatus

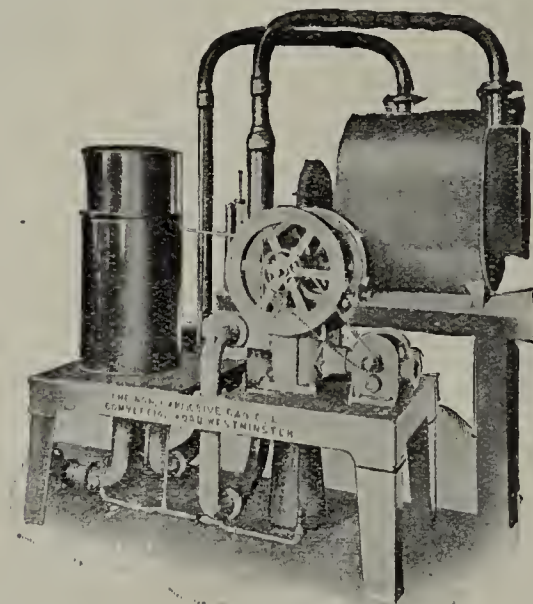
has advantages which are concisely as under:—That only the small-size gas pipes as used for coal gas are required. That no special burners and mantles are necessary, but those of the ordinary standard kinds, either upright or inverted, can be used. That not only the 50-candle-power lights obtained from other petrol gas, but any size lights, even up to and over 1,000 candle-powers, can be obtained if desired. That no explosive mixture is contained either in the apparatus or in the pipes, and that for heating, cooking, and all domestic purposes, with the ordinary Bunsen burners, a heating power five times that of any other petrol gas, and 25 per cent. more than coal gas, can be obtained.

"Petrozone" apparatus can be worked either by weights, hot-air engines, or water power, and the system is particularly useful for country houses, churches, factories, and public institutions, and amongst their installations the Gas Light and Power Syndicate, Ltd., have lately put in a 100-light plant at the Links Hotel, Kingsdown-on-Sea, Kent, where the gas is used with such success that the proprietor has offered by letter to allow the installation to be inspected at any time.

Messrs. Gilmor & Co., at Edgware, Middlesex, have used the "Petrozone" gas for upwards of three years, and have now a 150-light plant regularly working, lighting the whole of their establishment and at the same time being used for a gas cooker and geyser, and they state:—"From careful calculations that we have made as to our lighting cost, and taking the present high price of petrol (1s. 9d. less the 3d. tax rebate per gallon), it works out, according to candle power, slightly less than one-half the amount we should otherwise have to pay for coal gas at a specially reduced rate of 3s. 4d. per 1,000 cubic feet."

The "Airalite" Plant.

The Non-Explosive Gas Company, Ltd., 5, South Street, Finsbury, E.C., are the manufacturers of a very successful plant known as the "Airalite," and the fact that in this country and abroad no less than 860 plants are in operation, speaks well for the popularity of this Company's system. The plant which is here illustrated is a portable, compact and self-contained machine,



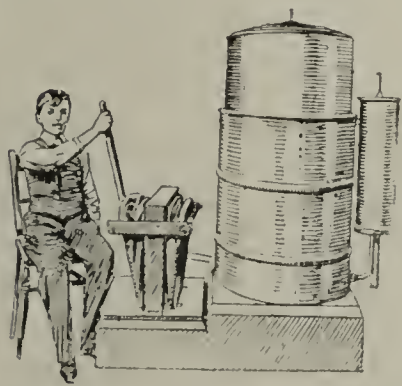
having very few working parts. The motive power for driving the "Airalite" is a small hot-air engine, which is actuated by a burner consuming gas generated by the "Airalite" itself. Actual experience has proved that the plant generates approximately 1,000 cubic feet of gas from one gallon of '695 petrol. The gas is

supplied to the burners at a low pressure, and can only be lighted at the burner itself, thus absolute safety is guaranteed. The plants manufactured by the firm have a wide range, the smallest, the "Little Gem," supplying twenty lights, and the largest, 400 lights of fifty candle-power each, but where necessary even larger plants are built. The system has been installed in the Tipperary Military Barracks where between seven and eight hundred lights are regularly required. These barracks cover an area of about a square mile, and the main pipes alone through which the gas is carried are nearly three miles long.

The "National" Air-Gas Plants.

These plants were the first petrol-gas machines made to use ordinary motor spirit, and are the only machines which, summer and winter, and in all climates, for the last seven years, have never been compelled to use the more expensive light petrol. The "National" petrol air-gas machines stand to-day in a class by themselves for efficiency, reliability, and economy, producing under every condition of load and temperature, an absolutely unvarying gas from ordinary motor spirit. The economy effected by the use of "National" air-gas is evidenced by a study of the following: From one gallon of ordinary motor spirit used in the "National" air-gas machines the same amount of light can be obtained as from $1\frac{1}{4}$ gallons of .680 light petrol; 9 units of electricity; 500 cubic ft. of coal gas; $\frac{1}{3}$ of cwt. of calcium carbide; or $6\frac{1}{2}$ gallons of paraffin, or to put it in another way, the light that costs under 1s. with "National" air-gas, will cost, with .680 air-gas plant (petrol at 2s.), 2s. 6d.; electricity at 3d. per unit, 2s. 3d.; coal-gas at 3s. per 1,000, 1s. 6d.; acetylene carbide at 13s. 6d. per cwt., 4s. 6d.; and with paraffin oil (paraffin at 9d.), 4s. 10 $\frac{1}{2}$ d.

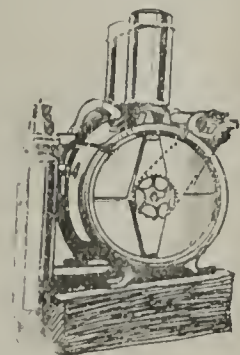
The gas produced carries with it the whole of the air needed for its combustion, being in fact, 98 $\frac{1}{2}$ per cent. air impregnated with only $1\frac{1}{2}$ per cent. of petrol vapour, so that it is non-explosive, hygienic, as, unlike coal-gas, it does not take any air from the room in which it is burnt and renders a perfect white light, more nearly approaching sunlight than any other illuminant.



The Hand-Drive Machine.

tion, a large storage bell is provided.

The weight-drive machine is made in six sizes from 10 to 50 lights, while a 100-light size can be made to special order. The machine is made practically throughout of copper, brass, and cast iron, and is therefore almost indestructible. It is absolutely automatic, stopping altogether when the lights are extinguished, and starting automatically when they are lit, therefore nothing to go out of order. The machine delivers its gas at the burner at constant

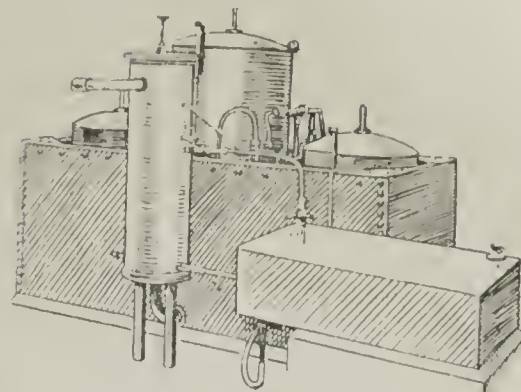


The Weight-Drive Machine.

These machines are made in five distinct types, the hand-drive, weight-drive, water-drive, engine-drive, and shaft-drive. The hand-drive machine is listed in one size only of 15 lights for use where labour is cheap. Where the machine is required to provide light for some time without atten-

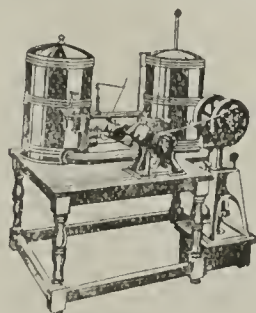
pressure, thus the light is absolutely unflickering on all loads.

Wherever water is obtainable at a pressure of 15 lbs. or over, the water-drive machine can be used. Its water consumption is very small, and like the weight-drive, it is absolutely automatic. It has the



The Water-Drive Machine.

advantage over the weight-drive machines in that there are no weights to wind up, and consequently no attention whatever is required. These machines are listed up to 100 lights.



The Engine-Drive Plant.

The engine-drive plant is in all sizes from 60 to 200 lights, but larger sizes can be obtained if desired. It is very reliable, and has given great satisfaction all over the world, both in climates varying as much as Russia and Assam. The plant par excellence for large installations.

The shaft-drive plant is intended for works, garages, or anywhere where power of any kind is available, for in this case the first cost of the hot air engine is dispensed with, and moreover, there are no weights to wind up.

"Carmien" Portable Gas.

The "Carmien" portable gas has been on the market for many years, having been introduced as far back as 1904. The gas is generated from motor spirit, the tank containing the spirit being placed in some convenient position outside the building, a connecting copper tube of small diameter leading to the burner. An incandescent mantle is used, the result being that a light of fully seventy candle power is obtained. Not only is this light largely used for interior lighting, but is very popular as a means of street illumination, which can be carried out either by gravitation or pressure, and the fact that several local authorities have not installed the system but extended its use, shows that the "Carmien" under practical conditions gives every satisfaction. Its simplicity and inexpensive nature are two features which have combined to make the light so popular. Messrs. Henry Dutton & Co., 7, Fisher Street, London, W.C., who are marketing the "Carmien" apparatus, also manufacture installations for export up to fifty lights, while in addition they have on the market a cooking stove which solely uses the petrol gas.

The County Petrol Gas Plant.

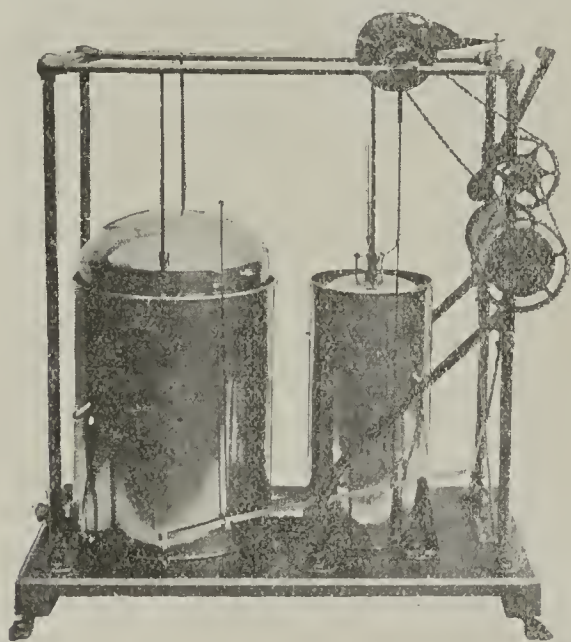
The makers of the County weight-driven lighting plant have devoted a considerable amount of time and research to both the theory and practice of petrol gas. The inventor of the plant—Mr. E. Scott-Snell, A.M.S.E.—is well known as one of the leading authorities on this subject, and his lecture before the Society of Engineers on the theory of the matter is undoubtedly by far the most complete statement on the subject which has yet been published—at any rate in English.

The County machine, which is the result of Mr. E. Scott-Snell's work, has therefore received a considerable amount of attention. One of the chief features

of the plant from a theoretical point of view is that it makes a perfectly constant gas containing 6 per cent. of petrol vapour. The firm are very emphatic that this is the correct practice to adopt. Though (as they point out) it would be very easy for them to produce a 2 per cent. mixture plant—only one-third of the carburetting efficiency being required for such a gas as compared with that for producing a 6 per cent. gas—yet they regard the 6 per cent. gas as possessing so many advantages that the extra trouble in manufacture and carburettor design is well repaid by results. They claim—and we have not heard this disputed—that they are the only firm whose plant has reached a standard of efficiency and constancy of gas production to enable gas engines to be driven by petrol gas for pumping, lathe working, and various purposes.

The chief mechanical features of the plant are its substantial construction, and the excellent and unusual arrangement of working parts by which every moving part is under all conditions and in all phases of working fully in sight—that is to say—immediately accessible. For a machine which normally has to work in remote country places many miles from engineering assistance and in unskilled hands, this is an ideal arrangement, and the makers of the machine are to be congratulated on the care that has been exercised in this regard.

The plant is normally arranged for working on the weight system. In the accompanying photograph a 50-light machine is shown. Owing to the use of a 6 per cent. mixture considerable less height is required than with the older type of plant, and we are informed that, as a general rule, it is found quite a satisfactory arrangement to hang the weights inside the machine shed, and thus avoid the unsightly effect of hanging



them outside the house, and also the rather rapid depreciation which pulleys inevitably suffer if exposed to wind and weather.

The gas holder and air pump are constructed of stout copper sheets, which apart from their intrinsic worth give the machine a very fine appearance. The internal pipe work is of copper or brass, and we notice that heavy pipes with screwed connections are used, the soldering iron being avoided wherever the metal work is subject to strain.

Another feature of the plant which differentiates it from other machines is the petrol storage arrangement. All the petrol is stored in a tank outside the house, which is a separate unit and can be placed at any

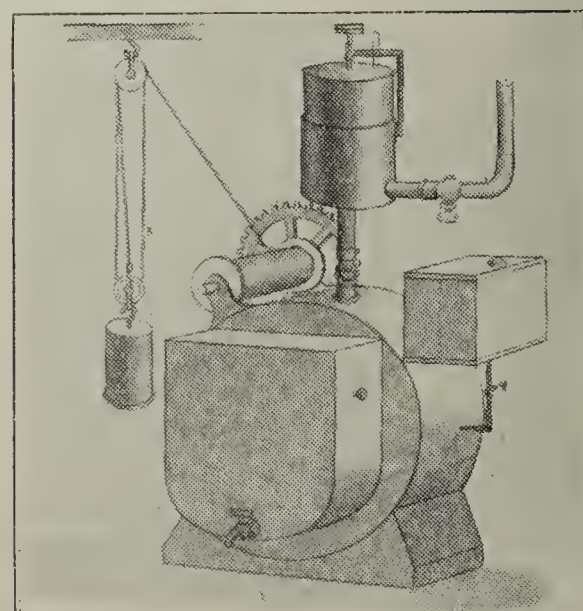
distance from the machine. This enables it to be fixed in the open air, which is a very safe arrangement, and one, we understand, much favoured by the Insurance Companies.

This combined with the petrol-measuring pump ensures that there is no spirit in the machine except that actually in process of conversion into gas.

The Company inform us that they have recently supplied a machine to H.M. Secretary of State for India, for supplying gas for laboratory work in India, the 6 per cent. mixture being an efficient gas for use with Bunsen burners, assaying stoves, etc., on account of its high calorific value.

Benzol Gas.

Invented originally for motor spirit, the plant of the Benzol Meter Gas Company (Hooker's process) is now marketed as a machine for producing gas for lighting, cooking, and heating purposes from benzol, this step having been taken on account of the comparative cheapness of benzol as compared with petrol, and owing to the higher thermal efficiency of the former product. As seen from the illustration here given, the machine



is neat in design and is operated upon the weight principle, and the fact that over 1,000 cubic feet of gas can be obtained from one gallon of spirit speaks well for the value of the installation from the point of view of economy, the burning mixture consisting of about 2 per cent. benzol vapour and 98 per cent. air.

Cox's Air Gas.

This is another well-known type of petrol light, marketed by the Machine Gas, Ltd. The system is fitted with the Cox carburettor, which has for years been admitted to be very efficacious and economical. The great advantage claimed for the Cox system is that it will effectively evaporate motor spirit of .720 density, thus showing a great saving over competing systems using the more costly lighter spirit. The company's weight-driven plant generates a constant mixture under all conditions, there being no perceptible sign of variation in the light, whether the load be increased or decreased, though this is frequently a common failing with weight-driven machines. The machine has no adjustments whatever, and consequently it requires no attention beyond the occasional winding up of the weights. The company's new 20-light plant can work at full pressure for eight hours upon one gallon of motor spirit.

In regard to the larger engine-driven plants, the company has been eminently successful in carrying

(Continued on page 618.)

MISCELLANEA.

LATEST DEVELOPMENTS IN THE MEXICAN FIELDS.

CONSIDERABLE activity prevails in regard to petroleum developments in Mexico in spite of the disturbed condition of the country, and October was a most productive month in all the four oil-producing fields. One of the surprises of the month was the bringing in of a very good well in the Topila field, which hitherto has been uniformly disappointing. Here the Mexican Oil Company finished a well, which at first gave 20,000 barrels per day. The well was, however, shut down until tankage was available, for no preparations had been made to handle such a large output.

At Las Naranjas, some eighty miles south of Tampico, the Mexican Eagle Company brought in a well which is producing 7,000 barrels per day. This is the company's No. 1 well in this region, and as it came in it blew out the cable tools and liner, and damaged the gate valve. This comparatively new pool is twenty-six miles north of the big Mexican Eagle Company's gusher at Potrero del Llano.

The Eagle Company has completed and tested its new eight-inch pipeline from Potrero to Brestos, where it connects with the existing line to Tampico, thus affording the company direct piping facilities to that port.

DECEASE OF MR. K. I. KHADISOFF.

WE regret to announce the death of Mr. K. I. Khadisoff, mining engineer, who for the last thirteen years has occupied the post of the president of the Baku Russian Imperial Technical Society.

Mr. Khadisoff commenced his technical activity at Baku in 1892, and although not being himself a petroleum producer or even personally interested in any petroleum enterprise, he nevertheless devoted all his activity to the development of the Baku petroleum industry, and was always forward in making various propositions and schemes in order to extend, develop, and generally benefit this industry. For instance, he was the first to propose the exploitation of the Bibi-Aibat Bay by one or another method; he was also a pioneer in the exploitation of the Binagadi area by means of deep boring. He pointed out the rich petroliferous nature of the Surakhani area, and was the first to foresee the great importance of this district in the development of the Russian petroleum industry.

In order to widely extend exploration in the Baku district, he organised a "Mining Industrial Society" at the beginning of the nineties, which later carried through explorations in many parts of the Apsheron Peninsula, as well as outside this district.

THE STANDARD IN CALIFORNIA.

Important Purchase of Additional Oil Properties.

THE Standard Oil Company of California has recently concluded an important oil land deal, having purchased the entire control of the Murphy Oil

Company's production, and the absolute ownership of its wells.

The Murphy Company owns the premier producing territory in the Fullerton field, with the exception of the holdings of the Union Oil Company. Its daily production is approximately 4,000 barrels, and this amount is expected to shortly considerably increase when the wells now drilling have reached the oil sands.

It is well known that for some time past the "Shell" representatives have been negotiating for the Murphy properties; in fact, negotiations with this combine were still proceeding when the Standard Oil Company came in and concluded their deal.

The consideration is said to have been \$4,000,000 in cash and a 22 per cent. royalty on the Murphy Company's wells. The deal has, therefore, been concluded at a price which is the highest paid for any oil property in the history of the Californian petroleum industry.

STEUAU-ROMANA IN GALICIA.

THE Steaua-Romana has acquired the exploitation rights over 150 acres of petroliferous land in Galicia. It is the first time that the Steaua-Romana has taken an interest in Galicia, although its ally—the German Bank—has long ago acquired various interests in petroliferous properties there. The mining rights have been acquired by the Steaua from Count Zamoyski, and the land forms part of the state forest domain Tustanowice. This land, long recognised as petroliferous, is situated in the foreground of the Carpathian chain. The price agreed upon is 900,000 francs, payable half cash and half out of the production. There is also a royalty of 22 per cent., of which 16 per cent. is paid to the State and 6 per cent. to Count Zamoyski.

The acquisition of oilfields in Galicia by the Steaua-Romana will give the latter a privileged position for supplying Germany with large quantities of good quality illuminating oil in case the German monopoly is finally decided upon.

The 40,000 tons of crude oil which the Steaua-Romana produces monthly in Roumania will also, after being treated in their refineries, be exported in their own barges on the Don to the south of Germany, where the company has already arranged for a port installation at Regensburg, and also distribution depots at various points.

The Steaua-Romana is at present also engaged in negotiations with the Roumanian Government in order to acquire a large area of virgin state property.

THE "JOHNSTON" ROTARY IN JAPAN.

THE American Well & Prospecting Company last month shipped two complete "Johnston" Rotary Drilling outfits to the Nippon Oil Company, Japan, making in all ten "Johnston" Rotaries supplied to that company this year.

CORRESPONDENCE.

To the Editor of the PETROLEUM REVIEW.

BRITISH AND AMERICAN RIGS.

SIR,—In your issue of the 22nd November, Mr. J. H. Skilton suggests that I have carelessly read the notice appearing in your issue of the 8th November and thereby fallen into error.

The Lucey Company claimed for their new Crown Block the following advantages, viz.:—

(1) Adjustable pulleys which can be clamped in any position on the Crown Block.

(2) Self-oiling bearings holding a pint and a half of oil.

(3) Machined grooves to the pulleys, thus lengthening the life of the wire rope.

I repeat that the three above-mentioned features have been standard practice with my company for long past, and in adopting them, the Lucey Company are only bringing their productions up to that standard. Each of the three features referred to were to be seen on stock Crown blocks and pulleys at our St. Albans' works, when we had the pleasure of showing members of the Lucey Company over the works some months ago. The amount of work the pulleys have to do on a rotary or percussion rig is beside the question, but I do not think Mr. Skilton's statement should be allowed to pass. When oil is struck and bailing resorted to with a percussion rig, as on the deep wells in Galicia, the work on the pulleys is constant, and the pulley runs at an extremely high speed. For sand pumping, during the boring operations, the work is more or less frequent and the speed high. Further, the work entailed on the pulley during the operation of extracting the poles under the percussion system is extremely heavy, and unless the pulley was machined on the groove and mounted in a thoroughly efficient self-lubricating manner, it could not possibly stand up to its work. On the rotary the work may be constant but the speed is slow. Compared with a pulley used for baling purposes, sand pumping and extracting poles, the work of a pulley handling rotary drill stem is infinitesimal.

With regard to the "unquestionable superiority" in the development of modern drilling machinery, which, thanks to natural advantages, American oilfield machinery manufacturers are suggested to possess, I desire to invite any oil company director or engineer interested in the matter to visit our works at St. Albans (half-an-hour by train from St. Pancras), and to personally inspect the manufactures of Mr. Skilton's company and other American manufacturers which we have there, in comparison with the productions of my company. Could all gentlemen in London interested in the purchase of oil-well drilling tools personally make this comparison, I do not think anything more would be heard of American superiority.—I am, Sir yours truly,

W. H. PEAK, *Secretary,*
Perkins Macintosh Petroleum
Tool and Boring Company, Ltd.

Romana-Americana.—The production of this company now averages 840 tons a day, of which 790 tons are obtained at Moreni.

NEW ENGLISH COMPANIES.

WEST CAUCASIAN OILFIELDS, LTD.

REGISTERED on November 19th, by Mayo, Elder & Co., 10, Drapers' Gardens, E.C. Capital, £200,000 in 10s. shares. Objects: To carry on the business indicated by the title. Minimum cash subscription, seven shares. Signatories: F. Robinson, 66, Compton Road, Winchmore Hill, N.; W. Facer, 36, Queen's Road, Wimbledon, S.W.; Charles T. Browning, 87, Riversdale Road, Highbury Park, N.; Charles T. Tivort, 87, Holmdene Avenue, Herne Hill, S.E.; Edward L. Cozens, 2, Forest Villas, Walpole Road, South Woodford; and Frank A. Saxon, 58, Percy Road, North Finchley, N. First directors (who are to number not less than two nor more than seven) are to be appointed by signatories. Qualification, £250. Remuneration, £200 each per annum (chairman, £300).

MIDLAND ROUMANIAN OIL, LTD.

Registered on November 22nd, by Herbert Smith, Goss, King & Gregory, 62, London Wall, E.C. Capital, £30,000 in £1 shares. Objects: To carry on the business indicated by the title. Signatories: Ernest J. Burrows, 29, Lyndhurst Road, Highams Park, Essex; and Gilbert Gray, 14, Goldington Crescent, N.W. First directors (who are to number not less than two nor more than five) are Eric McKay Carter, Richard S. Todd, A. Milne, and A. M. Chance, Junr. Qualification, 250 shares. Private company.

THE EASTERN CARPATHIAN OIL COMPANY, LTD.

Registered on November 18th, by Mackrell, Maton, Godlee, & Quincey, 21, Cannon Street, E.C. Capital, £100,000 in £1 shares. Objects: To acquire land considered to yield petroleum and other oils, and to carry on the business of refiners of same; also to enter into an agreement with the Galician Oil Development Syndicate, Ltd. Minimum cash subscription, seven shares. First directors (who are to number not less than two nor more than seven) are E. Birch, Thomas Barclay, L. W. Harris, N. Dalrymple and J. Margulies. Qualification, £200. Remuneration, £200 each per annum (chairman, £300). Registered office, 188-191, Dashwood House, New Broad Street, E.C.

PETROLIFER, LTD.

Registered on November 26, by E. F. Turner & Sons, 115, Leadenhall Street, E.C. Capital, £1,000 in £1 shares. Objects: to acquire any oil or petroleum bearing properties, and to carry on any business transaction in connection therewith. First directors (who are to number not less than three nor more than seven) are Howard Houlder, William Denton, E. L. Bentley, John R. Wells, and William M. Cohan. Remuneration, £50 each per annum, and a percentage of the profits. Registered office, 17, St Helen's Place, E.C. Private company.

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Registered on November 26th, by H. Percy Becher, 26, Bedford Row, W.C. Capital, £50,000 (40,000 $7\frac{1}{2}$ participating preference shares of £1 each, and 20,000 ordinary shares of 1s. each). Objects: to carry on the business indicated by the title. Signatories: H. G. Clark, Clovelly, 53, Oaklands Road, Hanwell, W., and Edmund W. Church, 35, Durlston Road, Upper Clapton, N.E. First directors (who are to number not less than two nor more than seven) are to be appointed by signatories. Qualification, one share. Remuneration, £200 each per annum. (Chairman, £250). Private company.

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This list is restricted to companies who have paid dividends or who are producers.

Company.	Share Capital.	Value of Shares.	Latest Prices.
	£		
Anglo-Maikop Corporation...	650,000	£1	10/6-11/6
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{29}{32}$ - $1\frac{1}{32}$
„ 5% Deb. Stock ...	600,000	£100	90-95
Assam Oil ...	310,000	£1	$\frac{19}{32}$ - $\frac{23}{32}$
Baku Russian Petroleum Co.	750,000	10/-	5/3-5/9
Bibi-Eibat Oil Co. ...	250,000	10/-	7/0-8/0
European Oilfields ...	385,000	10/-	6/9-7/9
Lobitos Oilfields, Ltd. ...	400,000	£1	29/0-30/0
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{3}{4}$ - $\frac{7}{8}$
Pacific Oilfields, Ltd. ...	250,000	£1	3/0-4/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	20/9-21/9
Russian Petroleum Co. ...		10/-	3/6-4/0
Schibaieff Petroleum, new Pref. (fully paid)		—	$1\frac{7}{16}$ - $1\frac{9}{16}$
„ „ new Ord.	690,000	(fully paid)	16/0-17/0
Shell Transport and Trading	7,000,000	£1	$43\frac{1}{2}$ - $5\frac{1}{32}$
„ „ „	3,000,000 Pref.	£10	$10\frac{1}{4}$ - $10\frac{1}{2}$
Spies Petroleum Co. ...	750,000	10/-	22/6-23/6

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	715	718
Caspian Society (Issue 1910) ...	1,000	3,175	3,185
A. I. Mantascheff & Co. ...	250	770	775
Nobel Bros. ...	5,000	20,350	20,450
Nobel Bros. (Issue 1912) ...	250	1,040	1,045
Russian Naphtha Society	100	293	295
Ter-Akopoff Co. ...	250	265	267
Lianosoff & Co. ...	100	273	274
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	395	400

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Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	37/0 xd.
6% Cum. Pref.	100,000	£10	$£10\frac{15}{16}$ xd
Burmah Oil, Ord. ...	1,100,000	£1	72/9
Pref. ...	250,000	£1	26/0
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
5% Pref. ...	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	6/7½
Mexican Eagle Oil, Ltd., Non. Cum. Pref. ...	\$8,500,000	\$10	37/9
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	36/0
Pref. (£1 paid) ...	100,000	£1	21/4½
Premier Oil Ord. ...	2,300,000	£1	6/9
Pumpherstons Min. Oil Co., Ltd. Ord. (17/- paid) ...	110,500	17/-	5¾
6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	12/0
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	75/9
„ „ „ „ B „ Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).
Dordtsche Petroleum Industrie My., Ord. ...	Aand 185
„ „ „ „ „ Pref. ...	„ 189
Royal Dutch Petroleum Co. ...	„ 625
Moeara Enim Petroleum Maatschappij ...	„ 244
Perlak Petroleum Maatschappij ...	„ 39
Sumatra Palembang Petroleum Maatschappij ...	„ 231
Zuid Perlak Petroleum Maatschappij, Pref. ...	„ 37
Tarakan Petroleum Maatschappij ...	„ 127



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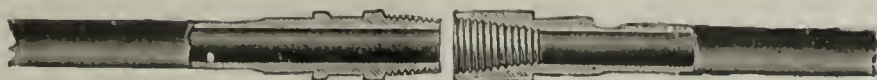
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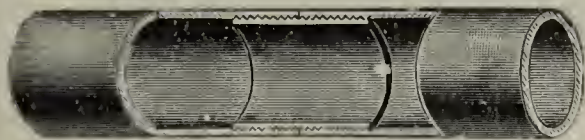
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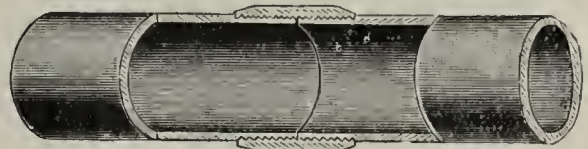
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CHIEF CONTENTS.

	PAGE
Editorial Notes	603
Production of English Companies in Russia	604
Popular Systems of Petrol-Air-Gas Lighting	605
Miscellanea	609
Correspondence	610
New English Companies	610
Latest Quotations of Petroleum Shares	612
Oil Fuel for the Navies of the World	615
Classified Imports into the United Kingdom	616
Notes from the Oilfields	617
Developing England's Latent Oil Resources	621
The Anglo-Maikop Corporation, Ltd.	623
The Spies Petroleum Company, Ltd.	626

THE

PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, DECEMBER 6TH, 1913.

OIL FUEL FOR THE NAVIES OF THE WORLD.

VIEWING the progress of events in a calm light, it must be a surprise to every student of the remarkable expansion which has overtaken the petroleum industry, that liquid fuel has within recent years made such gigantic strides in popular favour in the eyes of those who control the naval powers of the world.

Without fear of contradiction it can, to-day, be asserted that the whole of the Great Powers are not only viewing the subject of liquid fuel with much concern, but having satisfied themselves on the point

of its superiority over its older competitor (coal), are determined that adequate supplies shall in the future be forthcoming for their respective naval needs.

In this regard, Great Britain naturally takes the premier place, for, far removed though we be from developed sources of supply, our Admiralty have cast their voice in favour of its general adoption, and, not unnaturally, are bent upon securing themselves against any possible scarcity. It is, of course, regrettable that up to the time of writing, no adequate supplies of liquid fuel are in sight for naval purposes either at home or in our Colonies, but there are developments in this direction that to-day are full of significance, especially in view of the fact that a truly promising proposition now presents itself in regard to the turning into account of those sources of supply of carbonaceous material which, until recently, have generally been looked upon as being without the pale of commercial propositions.

Apart from this fact, however, the important rôle which is being played by British interests in the oil fields abroad cannot be overlooked nor over-estimated in its importance, and in this direction at all events, present evidence warrants the assumption that the supplies of liquid fuel forthcoming to-day can be multiplied almost *ad lib.*, if circumstances arose. It is well, however, to have in mind the fact that has often been emphasized in times past, that too much attention cannot be paid to the development of our home mineral wealth deposits, for if these were exploited upon the lines which up-to-date scientific application teaches, the great probability is that the British nation might be secure for all times against a dearth of supply of liquid fuel.

So far as the United States Navy is concerned, the authorities have also decided upon a policy which will mean that in future liquid fuel will, to a very great extent, take the place of coal. Up to the moment of writing the States naval authorities have not secured the necessary supplies, but evidence is not wanting to show that California is looked to as the one chief source, and it is an open secret that the authorities are now looking to acquiring prospective oilfields in that State for naval needs.

The REVIEW learns upon semi-official authority that it is the intention of the Government authorities to drill a few deep test wells in the Californian State, and if these are successful, they will be closed down, and the product conserved for future use, which means that portions of the Californian oil area will be withdrawn

from private development. The attitude which the United States Government has taken up on the subject of liquid fuel is tersely set forth by Dr. D. T. Day in his annual report recently published. In this he says: "The United States Navy has definitely abandoned the use of coal in future fighting ship design. All new destroyers, submarines and battleships are designed for oil burning; there are now built or building four battleships, 41 destroyers, 30 submarines, one monitor, three tank ships, one collier, one submarine tender, and several tugs and small vessels burning oil exclusively. Also eight battleships burn both coal and oil. One transport and one supply ship will be fitted to burn either oil or coal.

Germany is likewise not unmindful of the great advantage which liquid fuel gives to a navy, and it is already known that in the future oil fuel will be utilised wherever possible. In regard to supplies, Germany intends to obtain her supplies from the Galician fields, and with this end in view she will take an active interest in the production of crude oil if necessary. Within the Empire's borders there is also a fairly steady production of petroleum, and the Government is looking to this to augment, if necessary, her supplies from the Galician fields.

As to France, this is one of the great powers which has no promising oil development in any of its lands, yet even in these circumstances the French Government has great faith in liquid fuel, and is straining every nerve to secure adequate supplies. But France has not given up hope of finding commercial quantities of oil in her domains, and to-day French geologists are examining the western slopes of her eastern mountains with the hope of discovering some indications which will warrant drilling several wells. As a matter of fact, we learn that it is very probable several wells will be drilled in France next year with a view to finding oil.

Russia, as is known, has for many years taken, like Roumania, a great interest in liquid fuel for naval needs, but to-day the declining supplies at home have mitigated against its more general adoption. It is a foregone conclusion, however, that in years to come these nations will be in the forefront in regard to the burning of oil fuel on their respective navies.

It is evident that within the next few years the whole of the navies in the world will not only have appreciated the claims of oil fuel, but will be operating fleets of fighting ships which will be almost exclusively oil-burning vessels.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO NOVEMBER 24th, 1913.

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Belgium ..	—	250	13,140	685,563	—	—	—	—	—	55,050	—	120	—	5,070	13,140	757,053
Canada ..	—	—	—	9,820	—	68,660	—	—	—	—	—	—	—	—	—	79,480
Dutch Indies ..	—	—	—	—	—	—	—	—	1,390,500	40,309,050	107,550	407,047	—	—	1,498,050	40,716,097
Germany ..	2,210	214,790	60,980	3,374,530	—	600	—	211,810	—	471,640	—	800	—	4,610	63,190	4,278,780
Holland ..	—	—	40	9,970	—	—	—	—	5,000	7,349,340	—	—	—	590	5,040	7,359,900
Mexico ..	—	5,753,800	—	—	—	—	—	—	—	1,528,800	—	12,812,160	—	—	—	21,133,040
Roumania ..	—	18,992,357	—	440,060	—	—	—	1,038,280	—	6,058,960	—	9,027,540	—	—	231,750	35,668,917
Russia ..	—	9,844,560	926,250	12,890,731	120,000	513,390	—	1,150,000	231,750	11,889,350	—	—	—	—	1,046,250	35,138,031
U.S.A. ..	3,863,830	110,125,857	410,530	43,811,374	—	231,755	831,500	60,164,410	—	23,706,880	92,000	5,773,260	8,640	892,625	5,206,500	244,696,161
Other Countries	—	80	1,960	147,720	—	480	—	—	—	4,859,240	—	62,870	—	1,105,460	1,960	6,175,850
	3,866,040	144,931,694	1,412,900	61,369,768	120,000	815,885	831,500	62,554,500	1,627,250	96,228,310	199,550	28,083,797	8,640	2,008,355	8,065,880	396,003,309

NOTES FROM THE OILFIELDS.

AMERICAN.

The Electra Field.—This field is now looked upon as one of the most important of the Texas oil-producing regions. Several good wells have been recently brought in, the field now having a daily production of 29,000 barrels. There is much activity in the drilling of new wells, so it is very probable that the output will shortly further increase.

Extension of the Kern River Field.—The Kern River Field has entered upon a new lease of life as a result of the operations of the Standard Oil Company in the north-western limits of the field. The oil sands here are found at a deeper level than in the other parts of Kern River, but the production is far greater, some of the wells yielding 200 barrels daily.

RUSSIAN.

News from the Grosny District.—Oil has been struck at Braguni, near the station Gudermes, in a well of a depth of 370 ft. and a diameter of 12 in. The oil obtained has a specific gravity of 0.920 to 0.940.

Nineteenth Siedz of the Terski Petroleum Producers.—The nineteenth Siedz of the Terski Petroleum Producers will take place about the middle of this month, when several important measures will be discussed.

Contracts for a Supply of Residuals.—The Administration of the Trans-Caucasian Railways is opening a competition for the supply of 300,000 poods of residuals, to be delivered during January–March, 1914, at Krasnovodsk for the Central Asiatic Railway.

Volga Navigation in 1913.—The results of the last navigation season on the Volga show a total transport of 219,445,541 poods of petroleum products, including 174,791,128 poods of residuals and 44,654,413 poods of kerosene, benzine, and lubricating oils. The total amount for the navigation of 1912 was 159,931,646 poods.

Grosny Petroleum Production during the Nine Months.—The production of petroleum on the Grosny oilfields during the nine months totalled 51,085,812 poods, including 1,593,972 poods of spouted oil. At the end of September there were in exploitation 69 plots and 269 wells of an average depth of 1,783 ft. New boring during the month amounted to 13,932 ft. There were in work 107 plots and 477 wells, of which 253 were in exploitation, 93 in boring, 89 inactive, and 42 in various repairs. Boring on the new Grosny fields amounted to 2,321 ft., and from the old well of Bellik there were 23,270 poods obtained.

Prolongation of the Leases in the Terski Province.—The Council of the Siedz of the Terski Petroleum Producers has addressed the Governor of the Caucasus with a demand to modify

the rules applying to exploitation of petroliferous lands belonging to the Caucasian-Kazak Military Administration. The conditions demanded are (1) that the leases should be for a period of 36 years for all new plots; (2) that the leases of all the plots should be renewable for another period of 36 years; and (3) that the technical control of the boring wells should be left in the hands of the mining administration and mining engineers.

ROUMANIAN.

Steaua-Romana.—The average daily production of this company during the past week amounted to 1,000 tons, of which 502 tons were obtained at Campina, and 307 tons at Polieiori.

Exportation.—Exportation continues to be very active, as the prices abroad remain high, especially for residuals. Unfortunately, the difficulties in the transport continue without any prospects of amelioration.

Prices.—The prices of crude oil are slightly weaker, notwithstanding large demands and small offers for immediate delivery. Prices on the interior market are very good, especially for residuals for which there is a great demand.

Astra-Romana.—The average daily production of this company during the past week was 1,212 tons, of which 958 tons were produced at Stavropoleos, 115 tons at Bana, 97 tons at Filipeshti, 39 tons at Campina, and the rest on the other fields.

Fire at Tzintea.—On November 20th a fire broke out in well No. 5 of the Romana-Belgiana at Tzintea. The well, which was in production and yielding about 20 tons a day, is now in repair, and will probably again soon enter into production.

Liquid Fuel for the French Navy.—An officer of the Commissariat of the French Navy has arrived at Bucarest in order to study on the spot the production of petroleum. This visit is being made in connection with the intention of the French Navy to purchase liquid fuel in Roumania.

Production.—The general production during October has considerably increased as compared with that during September. During the first ten days of November it remained stationary, but as several wells are now expected to strike oil, at the end of the month there will soon be another increase in the general production.

Syndicate of Petroleum Producers of the District of Moreni-Bana.—The first meeting of the above syndicate took place on November 17th last. The syndicate, which has been formed by a Ministerial order, is composed of delegates of each of the petroliferous enterprises in the district. The duty of the syndicate is to take measures of precaution against fires and accidents. At the meeting of November 17th questions concerning eruptive wells were discussed.

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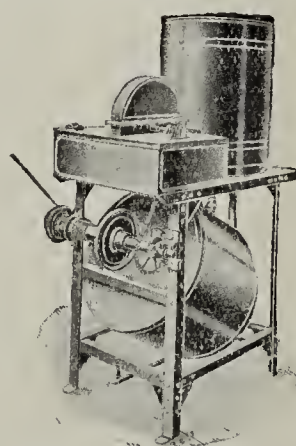
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(Continued from page 608.)

war into the coal-gas companies' camp. At Romford Union, for instance, after the system had been given a very exhaustive trial, one of the largest air-gas installations in the country was ordered, and to-day two 300-light machines are responsible for the lighting of the whole workhouse, which covers eight acres. These machines are successfully evaporating 760 spirit, having entirely displaced Romford coal gas throughout the huge institution. The coal-gas bill at this institution for six months last year was £121. 9s. 11d., whereas for the corresponding period this year with Cox's air gas, it worked out at £63. 12s. This achievement is undoubtedly unique in the annals of air gas, and reflects great credit upon the company which has brought the invention to such a stage of perfection.

Aerogen Gas.

Messrs. Strode & Co., Ltd., whose name has for many years been associated with the Aerogen gas-making plant, have one of the most popular of the whole of the petrol-air-gas systems on the market. Twenty-five years ago Aerogen gas was introduced on the Continent, and from that time to the present it has enjoyed a steady and unchecked progress, though every inch of its headway there was contested by the then powerful acetylene industry. To-day, however, Aerogen gas is firmly and unassailably established, and numbers of small Continental towns depend upon Aerogen installations absolutely for their artificial light. The plant is manufactured in various sizes, and for a town generating central plant a power-driven machine capable of supplying upwards of 20,000 lights is supplied. The plant here illustrated is one of the weight-driven type for domestic lighting installations, and of this type many thousands have been in constant use for years. Larger plants are designed for hot-air motor drive, by water power, and also electric motors. To-day the Aerogen petrol-air safety gas is well known all over the world, and the numerous Colonial installations which have been carried out by the company testify to the popularity of the system.



Small Weight-driven Machine.

EXPORTS OF PETROLEUM PRODUCTS FROM BAKU.

Statistics for September.

THE total quantity of petroleum products exported from Baku during September amounted to 33,050,379 poods, as against 42,884,252 poods exported during the corresponding period 1912. The following table shows the quantities of various products exported by rail, on the Caspian Sea and by road :—

	Rail. Poods.	Exported by Caspian Sea. Poods.	Road. Poods.
Kerosene ...	1,656,420	4,960,080	77,598
Lubricating oil ...	880,839	683,880	27,856
Solar oil, light ...	46,854	76,232	—
„ „ heavy ...	63,993	98,504	837
Residuals ...	904,433	17,576,936	47,496
Crude oil ...	841,801	4,826,313	30,380
Benzine ...	238,783	3,754	7,390
Totals ...	4,633,123	28,225,699	191,557

THE OILFIELDS FINANCE CORPORATION, LTD.

Highly Satisfactory Report.

THE report of the directors of the Oilfields Finance Corporation, Ltd., covering the period from the incorporation of the company to June 30th, 1913, and which is to be presented to the shareholders at the first annual meeting next Friday, is a highly satisfactory document, more especially considering the state of the oil share markets during the period under review.

The profit and loss account shows a gross profit of £57,147, which, after deducting various administrative expenses and general charges, leaves a disposable balance of £40,749. With this the directors recommend wiping off certain preliminary expenses (£4,661), putting £10,000 to the reserve, and paying a dividend of six per cent., leaving nearly £4,000 to be carried forward.

One particularly gratifying feature in the profit and loss account is that, while a sum of £8,058 appears for salaries, directors' remuneration, legal costs, etc., this sum is more than set off by a figure of £8,171 received by way of office rents, administration of allied companies, and other fees.

The whole balance-sheet has a ring of sincerity about it; but, what is more, it shows that the corporation is being, not only ably, but very successfully managed.

IMPORTS OF PETROLEUM PRODUCTS INTO GERMANY DURING SEPTEMBER.

THE total quantities of various petroleum products imported into Germany during September amounted to 103,534 tons, as against 86,344 tons imported during September, 1912. The following table shows the quantities of products received from the various producing countries :—

From	Kerosene. Tons.	Benzine. Tons.	Lubricating Oil. Tons.
United States ...	44,611	3,691	6,631
Austria ...	9,090	2,846	2,651
Russia ...	444	9,990	6,292
Roumania ...	2,968	4,267	805
Dutch Indies ...	—	2,837	—
Other countries ...	19	722	239
Totals...	57,127	24,344	16,618

Besides the above there were imported during the month 8,563 tons of asphalt.

PETROLEUM AND THE FRENCH CUSTOMS.

THE *Journal Officiel de la Republique Francaise* has published a new list of goods, previously not classified in the tariffs of the customs, with the following notice :—

“The practical distinction of a refined oil and an essence will be based on specific gravities. An essence is a refined product of a gravity inferior to 0.791 at 15° C. Any product of a gravity above 0.791 is taxed as a refined oil. As such will also be considered any crude product containing 91 per cent. or more of kerosene distillate. White oil and all spirits for motors of a gravity below 0.791 are classified as essences.

DEVELOPMENTS IN THE OILFIELDS.

LATEST PROGRESS REPORTS.

Ratoczyn (Galicia) Oil.—Output of oil for month of November, 2,145 tons.

Galician Oil Trust, Ltd.—The production for November amounted to 2,100 tons.

Traian Roumanian Oil Company, Ltd.—Production of crude oil for week ended November 29th, 364 tons.

Anglo-Roumanian Petroleum Company, Ltd.—Production of crude oil for week ended November 29th, 253 tons.

Maikop Premier.—Progress report, by telegram dated Apsheronskaya, 1st inst.: "New Well No. 5, 856 ft.; drilling with 8-in. bit. New Well No. 6, start drilling this week."

Maikop Pipeline and Transport Company, Ltd.—Received for pumping for week ended November 29th: Ekaterinodar line, 51,001 poods (823 tons); Krimskaya line, 8,700 poods (140 tons).

Anglo - Egyptian Oilfields, Ltd.—The following telegram has been received:—"Gemsah Well No. 14: present depth, 1,505 ft. calcareous sand and gypsum, struck a very small show of oil and gas. Testing this level, 10-in. casing on bottom. Hurgada Well No. 1, position unchanged since last advice, drilling ahead. Hurgada Well No. 2, Hurgada Well No. 3, hope shortly to start boring."

Kern River Oilfields of California, Ltd.—Management committee of the St. Helens Petroleum Company report by cable as follows:—"Midway, King lease, well No. 1B—depth, 750 ft. Midway, King lease, well No. 3—depth 2,125 ft.; increase, 375 ft. Midway, McLeod lease, well No. 1—depth, 3,470 ft.; increase, 145 ft. Santa Maria, well No. 1—depth, 3,550 ft.; increase, 200 ft. Encountered oil sand at 3,500 ft., but believe contains asphaltum; will test out later. Fullerton-Anaheim lease, well No. 2—depth 2,800 ft. Are having trouble with swedging 10-in. casing. Fullerton-Anaheim lease, well No. 3—depth, 2,375 ft.; increase, 575 ft."

Roumanian Consolidated Oilfields, Ltd.—Production for week ended November 29th, 1,006 tons; production for November, 4,738 tons. Drilled during November, 1,678 ft. Office note: "Four of the producing wells at Moreni (Nos. 17, 19, 24, and 27) are under repair, and should re-enter producing list next week. Tsintea No. 5 (new well) is yielding 70 tons a week from first oil source. Chiciura No. 3: Extraction of tools delayed by strong eruption of gas, but expected to be completed December 2nd. Cable from Ploesti, dated December 2nd: 'Chiciura No. 3 tools extracted; 40 metres of sand and 312 metres of oil in well: now re-inserting 7-in. protective column: indications all good.'"

LATEST COMPANY REGISTRATIONS.

MELVINE MOTOR SPIRIT COMPANY, LTD.

Registered on December 1st by Simmons & Simmons, 74, Cheapside, E.C. Capital, £3,000 in £1 shares. Objects: To acquire and deal in concessions relating to any oil-bearing lands, and to carry on the business of oil refiners, etc.; also to enter into agreements (1) with William A. Hall, and (2) John L. Elliot. Signatories: Herbert John Gay, 36, Melbourne Road, Walthamstow, Essex, and Vincent Ludbrook, 39, St. Laurence Road, Brixton, S.W. First directors: J. L. Elliott, William A. Hall, and Leslie Urquhart. Qualification, £100. Remuneration, £250 per annum. Private company.

THE OTTOCK OIL COMPANY, LTD.

Registered on December 1st by Waltons & Co., 101, Leadenhall Street, E.C. Capital, £25,000 in £1 shares. Objects: To carry on the business indicated by the title. Signatories: A. Gibbs, W. M. Frames, and C. T. Farrier, all of 6, Fenchurch Avenue, E.C. First directors (who are to number not less than three nor more than five) are to be appointed by signatories. Qualification, £200. Remuneration, £100 each per annum. Registered office, 6, Fenchurch Avenue, E.C. Private company.

ROUMANIAN PETROLEUM EXPORTS DURING THE NINE MONTHS.

THE total quantity of petroleum products exported from Roumania during the nine months amounted to 730,856 tons, as against 632,676 tons exported during the corresponding period of 1912.

There were exported during the nine months the following quantities of various products:—

					Tons.
Crude oil	...	...	...	...	22,738
Residuals	...	...	...	...	240,991
Lubricating oils	...	...	...	...	6,289
Kerosene	...	...	...	...	307,285
Benzine	...	...	...	...	153,131
Paraffin	...	...	...	...	422

The quantities of various products exported to various countries were as under:—

	Crude Oil.	Benzine.	Kerosene.	Residuals.
	Tons.	Tons.	Tons.	Tons.
England	...	17,505	63,760	84,016
Austria	...	16,362	9,519	27,425
Germany	...	1,060	41,081	20,637
France	...	488	55,290	33,176
Belgium	...	150	2,381	17,712
Egypt	...	—	730	68,980
Balkan Peninsula	...	420	3,245	50,611
Holland	...	—	10,237	23,978
Denmark	...	1,027	—	7,665
Norway	...	3,231	1,011	2,319
Sweden	...	—	—	5,264
Italy	...	—	12,132	19,924
Other Countries	...	—	—	3,584

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THE STANDARD OIL COMPANY AND ITS FORMER SUBSIDIARIES.

Dividend of over \$70,000,000 on the Half-Year's Trading.

A MOST interesting pamphlet has recently been issued by Messrs. F. S. Smithers & Company, New York City, of the New York Stock Exchange, in which much information is given concerning the Standard Oil Company of New Jersey and its former subsidiaries. Included in the extensive data are the capitalisations, dividends, etc., of the various companies known as the Standard Oil group. These companies are the Anglo-American Oil Company (operating in this country and having headoffices at Westminster), Atlantic Refining Company, Borne-Serymser Company, Buckeye Pipeline Company, Chesebrough Manufacturing Company, Colonial Oil Company, Continental Oil Company, Crescent Pipeline Company, Cumberland Pipeline Company, Eureka Pipeline Company, Galena Signal Oil Company, Indiana Pipeline Company, National Transit Company, New York Transit Company, Northern Pipeline Company, The Ohio Oil Company, The Prairie Oil & Gas Company, The Solar Refining Company, Southern Pipeline Company, South Penn Oil Company, S. W. Pennsylvania Pipelines, Standard Oil Company of California, of Indiana, of Kansas, of Kentucky, of Nebraska, of New Jersey, of New York and of Ohio. Swan & Finch Company, Union Tank Line Company, Vacuum Oil Company, Washington Oil Company, and Waters-Pierce Oil Company.

The total outstanding capital stock of these different companies, July 31st, 1913, was \$423,449,947, while the market valuation as of the same date was \$1,102,989,677.12.

The dividends paid by these companies during the first half of the current year aggregated \$71,224,543.97, as compared with total dividends during the entire year of 1912 of \$51,813,334.86. The dividends paid in the first half of this year included a special dividend of 40 per cent. on the stock of the Standard Oil Company of New Jersey, aggregating \$39,335,352.00, and stock dividends on several of the other companies.

CONDITIONS REGULATING THE COMPETITION FOR THE NOBEL PRIZE.

THE conditions of the competition have been issued for the prize established by the Baku section of the Russian Imperial Technical Society, bearing the name of Emmanuel Ludwigovitch Nobel, for the best works on inventions and sciences intimately connected with the petroleum industry.

The competition is open to Russians as well as foreigners.

The monetary value of the prize, which represents a sum of 1,000 roubles, is fixed each year by the Baku section of the Russian Imperial Technical Society, and depends on the value of the capital, the interest on which will form the total value of the prize. There will be a prize for each year, and for the first year the prize will be given for works connected with the technical exploitation of petroleum, or the sciences directly connected with this, for instance, petroleum geology. The prize for the second year will be for

technical sciences concerning petroleum treatment, for instance, petroleum chemistry. The prize for the third year will be given for works connected with petroleum exploitation, and that for the fourth year for works connected with treatment of petroleum, etc.

The competitors have to present their works in the Russian language not later than three months before the date fixed for the competition, that is to say, the 25th of February.

The works must be presented for competition in a closed envelope, which must also contain the name of the author.

The decision upon the adjudication of the prize to such and such a person will be by closed ballot.

Competitors should present their works to the council of the Baku section of the Technical Society, who will send them to the jury.

The date of the adjudication of the prize will be the 25th of May, that is to say, the anniversary of the foundation of the establishment of Nobel Bros.

MAIKOP PETROLEUM PRODUCTION DURING OCTOBER.

THE production of petroleum on the Maikop oilfields during October amounted to 380,972 poods. This production was obtained on 16 plots from 149 wells, of an average depth of 445.9 ft., and of an average diameter of 7.58 ins. A new plot, viz., No. 446, has entered into production at Neftiannaia. The production is decreasing on plot No. 202, but increasing on the plots formally belonging to Spies Company.

The total production for the ten months has amounted to 14,074,772 poods. The best yields during the ten months were obtained on plots No. 3 of the Black Sea Company, 1,528,972 poods; No. 30 of the British Maikop Company, 816,161 poods; No. 202 of the Maikop Victory Company, 604,894 poods; and No. 16 Andreas, 355,875 poods.

THE PETROLEUM TRADE OF GERMANY.

Statistics for the Nine Months.

THE imports of petroleum and products into Germany during the nine months were as under :—

				Tons.
Crude oil ...	...	...	...	818
Benzine, crude ...	...	...	...	210,105
„ refined ...	...	...	...	6,325
Kerosene ...	...	...	...	508,586
Lubricating oil ...	...	...	...	178,249
Solar oil ...	...	...	...	31,700
Paraffin ...	...	...	...	13,168
Other products ...	...	...	...	1,629
Total ...	...	...	...	950,630
Asphalt ...	...	...	...	116,655

The origin of the imported kerosene and crude benzine was as below :—

From.		Kerosene. Tons.	Benzine. Tons.
United States ...	...	380,004	42,786
Austria ...	...	89,392	20,257
Roumania ...	...	25,283	50,433
Russia ...	...	13,662	45,281
Dutch Indies ...	...	—	36,846
Other countries ...	...	145	14,502

Developing England's Latent Oil Resources.

A NATIONAL PROBLEM SOLVED BY THE DEL MONTE PROCESS.

Special - -
to the - -
"Review." -

THE fact that England has at present no adequately developed petroleum producing regions of its own—either at home or in the colonies—impresses one in all its significance now that we as a nation are becoming so largely dependent upon petroleum and its multifarious products.

True it is that vast deposits, shales, and other carbonaceous substances lie at our doors, each in its turn capable of yielding a certain quota of oil, but it is also true that until quite recently no process of treatment has been adopted which renders the distillation of these minerals a commercial proposition.

The Del Monte process, however, gives every promise of satisfactorily solving this problem in the not distant future, and in view of this, it is interesting to study not only the process itself, but the revolution which its commercial adoption will bring about. First as to the process itself. In the distillation of petroleum from coal, under conditions as near as possible to the ideal, the oil vapours produced at different temperatures must not be subjected at any moment after their formation to a temperature higher than, or even equal to, that at which they have been formed. To achieve this has long been regarded as an impossibility, because of the difficulties in applying the heats. In the Del Monte process, by a very ingenious means, the heats are regulated in an automatic manner, and this is, in the opinion of many experts, by far the most important part of the invention, and is the subject of a special patent. Every fraction of oil is recovered at the very low temperature of its formation, and is automatically and immediately driven into a zone of a lower temperature, so that the dissociating action of higher temperatures is avoided. The vapours travel through zones of constantly decreasing temperatures until they reach the condenser. This principle can be applied to practically any shape of continuous retort, but the shape definitely adopted in the Del Monte process appears to be the most convenient as well as the cheapest. The plant works entirely automatically, and labour is reduced to a minimum. The handling of the raw material and coke is done entirely by mechanical means, the former being fed continuously at one end of the retort, and is automatically and continuously extracted at the other. The whole process is completed in about forty-five minutes, this being the time it takes the material to travel from the charging to the discharging hopper, and to distil every particle of oil.

In order to indicate of what the Del Monte process is capable, exhaustive tests were recently carried out with an average quality of bituminous coal. From a ton of this coal the following products were obtained:—

Crude oil		20-30 gallons
Sulphate of ammonia		35-42 lbs.
Semi-coke		14-18 cwt.
Motor spirit (by "cracking")		15-20 gallons

We may eliminate any consideration of the market for metallurgical coke, which is already amply covered by the output from coke ovens.

It may, however, be stated in passing that the Del Monte process, although it is a low temperature process, has been found to be very successful in turning out an excellent coke of this description, and by this achievement has demolished the idea that in order to produce this type of coke the by-products have to be sacrificed. It has also proved that high temperatures are not at all essential to the production of a good metallurgical coke: in fact, it has shown that to obtain the largest quantities and the best qualities of by-products a low temperature process is necessary.

There is, also, a vast field for the semi-coke for domestic use, providing, as it does, a smokeless fuel, and giving out more heat than coal, as the calories are not drawn up the chimney, while it is also an ideal fuel for steam raising purposes. The adaptation of this process, therefore, would not only not encroach on the present business of the colliery owner, but would extend its scope, and add other branches of profit thereto by the production and sale of products he has not hitherto had the opportunity of securing.

From the analysis given above, it is no difficult matter to ascertain what quantity of coal would be needed to provide the petrol requirements of this country. If from one ton of coal say 15 gallons of petrol could be relied on, then the quantity of coal necessary to supply 100 million gallons of petrol would amount to about 6,000,000 tons, or slightly over two per cent. of the total quantity of coal raised in this country. Look at this question, however, in another way. The heat value of the coal consumed for domestic use in this country is almost entirely lost, in addition to which large quantities of valuable matter are entirely wasted. If this coal were treated by the Del Monte process, not only would there be available a fuel, smokeless in character and having a greater heat-giving capacity than the original coal by reason of its producing a heat in an incandescent form, but the more valuable products, such as petrol and sulphate of ammonia, would be secured. Moreover, the enormous amount of coal-dust, slack, and lower grade coal, which at the present moment are waste materials, would be, by the use of this process, converted into high-grade fuels, in addition to being sources of oil production.

If, therefore, the annual colossal waste of coal, which must be visibly shortening the life of our mines, were utilised in this manner, instead of being dumped down as useless, the oil obtained therefrom would easily provide the necessary requirements of the country, and at the same time furnish a fuel which could be very profitably marketed. The consumption of motor spirit in the United Kingdom during the current year will considerably exceed the figure of close on 100 million gallons. Assuming that only ten gallons of

motor spirit were obtained from every ton of coal treated, it is easy to see that only about 10,000,000 tons of coal would be required to produce this amount, and this could readily be provided from the huge wastage of the mineral prevailing under existing conditions. The motor spirit so obtained has a boiling point ranging from 40 deg. C. to 160 deg. C., while the petrol now on the market ranges from 47 deg. C. to 130 deg. C. Moreover, the residue would be transformed into a coke which would be readily saleable, while the balance of the crude oil, amounting to 200,000 tons, from which the spirit has been extracted, would be available for naval purposes, and could, therefore, be disposed of at a good price, and would be provided with a permanent market.

It is, however, when we come to deal with shales and other carbonaceous substances, that the Del Monte process reveals its superiority over other forms of distillation. Doubt has been expressed in some quarters as to the ability of this process to obtain so large a

percentage of crude oil from coal and other minerals. It will, probably, be news to many readers that when James Young first turned his attention to distilling oil from coal, after experimenting with various English and Scotch minerals, he eventually struck upon the Torbanehill gas coal, and from this he was able to obtain no less than 120 gallons of crude oil per ton. The fact that vast quantities of oil can, therefore, be produced from carbonaceous substances, is not by any means new. The essential fact that was lacking, however, was that until the arrival of the Del Monte process, no means were available of securing these products in sufficiently large quantities so as to make the process a commercial proposition. In regard to the distillation of oil from coal, no comparison is possible with any other process, but when we come to the treatment of shale, striking contrast can be made with the results obtained by the process now in vogue in Scotland. This can be most vividly effected by means of the following table:—

COMPARISON OF DORSET SHALE TREATED BY DEL MONTE PROCESS WITH THE SCOTTISH SHALE TREATED BY PRESENT METHOD.

	Scottish Shale Industry.	Scotch Shale. Del Monte Process.	Brandy Bay Shale. Del Monte Process.
Situation of deposits	Mining as low as 3,000 ft. deep	—	Outcrop on the surface.
Seams of shale	From 2 ft. to 3 ft. thick.	—	All shale.
Extraction	Mining.	—	Shovelling.
Cost of mining per ton	4s. 6d. to 6s.	—	6d.
Cost of retorting per ton	2s. 6d.	1s.	1s.
Time required for distillation	48 hours.	45 mins.	45 mins.
Cost of plant per ton per day, including refining	£400.	—	£100.
Yield of oil per ton in gallons	20-30	70-97	80
Sulphate of ammonia (lbs.)	18-34	—	34
Residue on refining oils	Wax.	—	Bitumen.

COST AND PRODUCTION OF 1,000 TONS PER DAY PLANT.

	Scottish Shale Industry.	Scotch Shale. Del Monte Process.	Brandy Bay Shale. Del Monte Process.
Cost of plant for 1,000 tons per day	£400,000	—	£100,000
Annual output (gallon)	7,300,000	—	30,200,000
Cost of plant per gallon per year	1s. 3d.	—	$\frac{3}{4}$ d.
Cost of refining crude oil	1d. per gallon.	—	$\frac{1}{4}$ d. per gallon (owing to absence of wax).

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THE ANGLO-MAIKOP CORPORATION, LTD.

REPORT OF THE DIRECTORS.

*Review of
the Past -
Year's -
Operations.*

THE report of the directors of the Anglo-Maikop Company, Ltd., to be submitted to the shareholders at the ordinary general meeting, to be held next Monday, is as under:—

ACCOUNTS.—The directors have pleasure in presenting to the shareholders the following report on the company's affairs, together with the accounts for the financial period ending July 13th, 1913 (June 30th o.s.) and balance sheet at that date.

PROFITS.—The profit and loss account shows a realised net profit on the year's operations of £26,903. 1s. 9d., which, with the balance brought forward from the previous year of £18,866. 4s. 6d., makes a total available sum of £45,769. 6s. 3d. The directors propose to place £2,700 to reserve account, and to write off to depreciation £3,685. 6s. 1d. After payment of commissions to managers, £861. 2s. 3d., there will remain a balance of £38,522. 17s. 11d.

DIVIDEND.—The directors recommend a dividend of 5 per cent. for the year, amounting to £19,336. 15s., leaving the sum of £19,186. 2s. 11d. to be carried forward to the next account as against £18,866. 4s. 6d. last year.

RESERVE.—The amount to the credit of reserve account, including the amount now proposed to be transferred, will be £47,239. 10s.

FINANCIAL POSITION.—The financial position as at July 13th, 1913, was as follows:—

	£	s.	d.
Cash at Bankers and on Loan	61,856	3	4
Deposits with Russian Government	1,006	16	10
Bills receivable	4,552	12	7
Sundry debtors	79,827	12	4
	147,243	5	1
<i>Less—</i>			
Bills payable	£3,157	17	10
Sundry creditors	47,310	16	4
	50,468	14	2
Excess of Cash Assets and Sundry Debtors over Liabilities	£96,774	10	11

INVESTMENTS.—The corporation's holding of shares and debentures shows an increase of £104,954. 8s. 11d. during the year. Part of this increase is accounted for by the fact that the contingent liability of £61,008. 4s. 6d. shown in last year's balance sheet for uncalled capital on holdings has been practically all called up. The corporation has also received debentures in the Maikop Premier Oil Syndicate, Ltd., for work done on that company's property, and in pursuance of the agreement for amalgamation of the various companies forming the Maikop Combine, Ltd., the corporation has taken up 115,990 shares in that company.

During the past year the directors availed themselves of an opportunity for increasing the corporation's interest in the Kuban River transport business—referred to elsewhere in this report—and a further sum of about £17,000 was invested in this undertaking. The shares and debentures held are taken into the balance sheet at cost. In the case of some of the securities this is slightly above market price at the date of closing the accounts. On the other hand, 121,000 shares in the Levanovskoe Petroleum Company, Ltd., and 67,717 ordinary shares in the Maikop Valley Oil Company, Ltd., stand in the corporation's books at *nil*, which, in the opinion of the directors, more than counterbalances the difference.

As the period covered by the accounts has not been favourable for financial operations the profits have been mainly derived from interest on investments and from the company's commercial business in Russia. The distribution department has continued to handle on commission the whole of the output of crude oil piped from the Maikop field, thereby securing favourable results to the producers. A considerable quantity of refined products has also been marketed.

Prices during the year have continued to advance, and at the end of October stood at 52 copecs per pood (£3. 8s. per ton) in Ekaterinodar. Owing to the favourable weather prevailing during the past summer, good progress has been made with work on this field, and recently the production has shown signs of improvement. One of the most interesting developments during the past year has been the extension northwards of the upper light oil source. This has been established by the strike on Otvod 21, Plot 488, belonging to the Maikop Premier Oil Syndicate, Ltd. Several wells are now being drilled by other companies to the N.N.W. of this plot. If these wells or any of them prove successful the light oil line will be considerably extended. On the N.E. and E. of the present producing plots in Shirvansky successful exploration work has been done to ascertain the value of the heavy oil source discovered in this part of the field. The results are very encouraging, and it is more or less certain that these oil sources pass through many of the plots of companies allied with the corporation. Several wells are at present being drilled in the district. On account of the large number of companies now allied to the corporation, it is possible to carry out the development work generally in such a manner as to test the maximum area at a minimum expense.

The well on Plot 108 having demonstrated beyond doubt that at least one oil source exists at depth, the directors considered the efforts of the group should be concentrated in tracing the direction in which the deposits run from that well in the same manner as has been done in the case of the upper sources in Shirvansky, which were gradually extended northward by the striking of oil on Otvod 202 in February, 1911; on Otvod 170 in November, 1911; and on Otvod 21 in April of this year. Arrangements were accordingly concluded for the lease on a royalty basis of Plot 120 which immediately adjoins Plot 108, and a deep well has been commenced thereon by the corporation, at the joint expense, and for the joint benefit, of the corporation and the allied companies. Good progress has been made—a depth of 1,330 ft. having been reached in five months. The directors have adopted this policy instead of drilling isolated deep wells many miles apart, as they consider that should any of the latter fail to strike oil erroneous impressions might be created regarding the prospects of the field at depth.

KRIMSKAYA.—Active drilling operations have been carried out on this field during the year by the Maikop Midland Oilfields, Ltd., and the Levanovskoe Petroleum Company, Ltd., and in June last the latter company struck a fountain of light oil at 1,553 ft. This discovery is of great importance to the corporation in view of the fact that in addition to its large holding in the Levanovskoe Petroleum Company, Ltd., it has considerable interests in the Maikop Midland Oilfields, Ltd., which is also operating on the field. The corporation holds a lease on extremely favourable terms of 810 acres adjoining these companies' plots. It was recently decided to proceed with work on the corporation's property; four wells are now in drilling and six more are projected. It is interesting to note that so far every well completed at Krinskaya has struck oil. The directors consider it significant that the strike on the Krinskaya properties has attracted other large Russian oil producers, and next spring will see greatly increased activity on this field.

ROUMANIA.—The petroleum industry of this country was considerably retarded during the past summer by the Balkan War and the mobilisation of the Roumanian Army, but the effects thereof are being overcome and there is every prospect of a rapid development in the near future. Despite the difficulties of normal working, the undertakings of the companies in Roumania in which the corporation is interested have already proved to be very remunerative, and the prospects are so encouraging that the directors have considered themselves justified in increasing the corporation's interests there.

The following is a summary of the position of the various undertakings in which the corporation is interested.

BLACK SEA OILFIELDS, LTD.—The total output of this company for the year ending June 30th, 1913 (o.s.), was 2,510,325 poods. Operations have principally been concentrated in the Shirvansky district, although wells have also been drilled in Neftianaya, where the company holds three plots. Several small wells are now being drilled in Khadijinskaya, where it has been proved a payable production can be obtained at a comparatively shallow depth. The report of the company for the quarter ending September 30th (o.s.) states that a larger quantity of crude had been handled in the Shirvansky refinery than previously, and, for this reason, as well as on account of the higher prices at present obtainable for products, that department is now making a satisfactory profit. Final dividends of 3 per cent. on the preferred and $4\frac{1}{2}$ per cent. on the ordinary shares—making 10 per cent. and $11\frac{1}{2}$ per cent. respectively for the year—were declared at the annual general meeting in February last. The accounts of the company to July 13th, 1913, are now in course of preparation.

MAIKOP VICTORY OIL COMPANY, LTD.—For the year ending July 13th, 1913, this company earned a net profit of £15,672. 0s. 4d. No dividend was declared, as the available balance was practically all written off to depreciation, and the financial position of the company has been thus strengthened. The total output for the year was 1,297,982 poods, which showed a considerable falling-off compared with the previous period, but this was partly off-set by the higher prices realised.

The company in July last acquired from the Maikop Spies Company, Ltd., three plots, together with a large amount of plant, machinery, materials, etc. This brings the total area of land belonging to the company up to 243 acres. The production of the company has lately been on the up-grade, and as active drilling operations are being carried out a further increase in the output is anticipated. It was stated at the general meeting of the company held on November 18th that the gross income of the company was at that time at the rate of £68,000 per annum, as compared with £50,600 for the previous financial period.

MAIKOP NEW PRODUCERS, LTD.—This company encountered considerable difficulty last year as it was found a portion of its producing plot had become waterlogged while being worked by the previous owners. The accounts for the period to March 31st, 1913 (o.s.) therefore, showed a profit of only £119. 10s. The production has remained steady during the last few months at about 35,000 poods per month. Drilling is in progress on Plot 490 and two wells have been commenced on Plot 554, adjacent to which a well belonging to a Russian Company is producing 300 poods per day. Half of Plots 387 and 532 have been leased to the Maikop Victory Oil Company, Ltd., on a royalty basis, and wells are being drilled thereon by the lessees. As the company owns a large acreage in the immediate vicinity of these plots, the results of the wells now being drilled will affect the future policy of the company.

MAIKOP COMBINE, LTD.—This company was formed to take over the properties of the Maikop Apsheron, Maikop Areas, Maikop Hadijensky, and the Maikop and General Petroleum Trust, Ltd. Considerable delay was experienced in obtaining transfer of some of the properties, and it was not until July this year that complete possession was obtained. The company owns fifty-nine plots, which is the largest area held by any company on the field. Wells are now being drilled on three plots, one being 457. Should oil be struck on this plot it will be a great extension of the upper oil sources to the north of the property of the Maikop Premier Oil Syndicate, Ltd., on which two wells are in production.

MAIKOP VALLEY OIL COMPANY, LTD.—The policy of this company for the last year has been a conservative one, it having been considered desirable before spending further working capital to await the results from the wells which are being drilled on the company's properties by the Maikop Deep-Drilling Company, Ltd., and by others on adjacent plots. The Maikop Deep-Drilling Company, Ltd., is carrying on operations on Plot 321, which was taken over from this company. At 1,280 ft. there were shows of gas and oil and the well has since been carried deeper to 1,444 ft. If oil is struck on this plot it will be of considerable interest to this company as it holds large blocks of land in that locality. Plot 120 in the Khadijenskaya district has been leased on a royalty basis for carrying out the co-operative scheme of deep drilling referred to elsewhere in this report. A well is also being bored on Plot 134 by a Russian engineer, and is now at a depth of 1,800 ft.

MAIKOP PREMIER OIL SYNDICATE, LTD.—That it is an unwise policy to condemn any area on the Maikop field on account of failure to strike oil in the first wells drilled thereon is shown by the experience of this company on Otvod 21 situated on the northern part of Plot 488. An unsuccessful well had been drilled on the plot before the corporation took over the management, and the first two wells put down by the corporation also failed to strike the upper oil horizon. The third well, however, was successful and a starting point having thus been obtained a further well was located, which also struck oil. Another well is approaching completion and two more are in preparation. The present output from the plot amounts to about 69,000 poods per month, the total production to October 31st (o.s.) being 253,371 poods. Under its management agreement the corporation receives 20 per cent. of all oil produced from the syndicate's property.

MAIKOP DEEP-DRILLING COMPANY, LTD.—Owing to a series of accidents the progress of this company has been slow during the last year. The well of Plot 108 flowed intermittently from November, 1912, to June, 1913, when production was stopped in order to remove the damaged casing and insert tubes of a heavier type. This operation has not yet been completed on account of the delay in delivery of the pipes by the manufacturers. Even should the work be successfully carried out, a large production cannot be expected from this well, as the diameter of the final casing is only 5 in. The well has, however, demonstrated the existence of a large oil deposit in the vicinity and the well now being drilled by the corporation on the adjoining Plot 120 should prove whether the sands extend eastward. The Deep-Drilling Company has also commenced a well on Plot 321 in the Neftianaya district, which has been carried to 1,444 ft., but work thereon has been temporarily suspended and operations concentrated on putting the well on Plot 108 into order.

LEVANOVSKOE PETROLEUM COMPANY, LTD.—During the past year this company has carried out active development operations, and in June last a prolific light oil source was struck in No. 1 Well at 1,553 ft. After spouting strongly the well became coked, but flowed for some time between the casing. Storage accommodation having been provided the well was re-opened, when it was found that the pressure of gas had damaged the casing at the bottom. It was deemed advisable not to attempt to repair this well until the arrival of a stronger type of casing which had been ordered. This is expected to arrive on the field early next month. Well No. 2 is now in the heavy oil source at 1,748 ft. Wells Nos. 3 and 4 are 1,380 ft. and 827 ft. deep respectively. The total output of the company to October 31st (o.s.) was 142,675 poods.

MAIKOP MIDLAND OILFIELDS, LTD.—This company has confined its operations during the last year to its property at Krinskaya, where it has met with considerable success. Two wells are producing heavy oil, while four others are in drilling. It is intended to deepen one of the present producing wells to the fountain source discovered in Well No. 1 of the Levanovskoe Company. Meanwhile a payable production is being obtained from the upper heavy oil strata. Krinskaya being a new field considerable technical difficulties were experienced at first, but with the knowledge now gained, much better progress is being made. The total output of the company to October 31st (o.s.) was 339,376 poods.

MAIKOP PIPELINE AND TRANSPORT COMPANY, LTD.—The arrangement for absorbing the Maikop Mutual Oil Transport Company, Ltd., was completed in the spring of this year and the company now controls all the piping facilities from the Maikop field. As a result of the amalgamation the company found itself in possession of a large quantity of surplus pipes, plant, and machinery. A considerable portion thereof has since been realised at good prices, and the greater part of the proceeds utilised in the redemption of debenture stock of the company. Some of the surplus pipes and plant have been used in the construction of a pipeline from the Krinskaya Oilfield to the Vladikavkaz Railway. The line was opened for traffic in August last, and to date a quantity of 369,078 poods has been piped from the new field. Already the Krinskaya line has considerably increased the earnings of the company and ample margin in piping and tank storage capacity has been allowed for the developments expected on the Krinskaya field. The Pipeline Company holds a large interest in the Kuban Refining Company, Ltd.

KUBAN REFINING COMPANY, LTD.—This company has acquired

the share capital of the Maikop Refineries, Ltd., and has entered into a contract with that company for the refining of crude oil. Substantial profits are being earned and an interim dividend at the rate of 20 per cent. per annum in respect of the six months ending September 30th (o.s.) has just been declared.

KUBAN BLACK SEA OILFIELDS, LTD.—This company is working at Suvorov in the Taman Peninsula. The efforts to repair the second well referred to in last year's report have so far not proved successful. A third well is now being drilled, the depth of which is 1,655 ft.

KUBAN STEAMSHIP COMPANY.—The river transport business in which the corporation is substantially interested deals with the carriage of grain and other products (including oil) from the Kuban province. A line of passenger and cargo boats is run between Ekaterinodar and Temriuk on the Sea of Azov, and very satisfactory profits have been earned during the past year. In order to develop the undertaking and to absorb the only competing business, a Russian company—the Kuban Steamship Company—has been formed with a capital of 750,000 rbls., of which the corporation holds a large proportion.

ANGLO-ROUMANIAN PETROLEUM COMPANY, LTD.—This company holds 487 acres of land in the district of Prahova, in Roumania. In view of the satisfactory prospects the corporation decided to acquire an interest in this company, and recent developments would seem to point to the undertaking becoming very successful. During October last a prolific oil source was struck in a well belonging to the company in the Bordeni district. The company has six further wells drilling in the immediate vicinity, all of which it is estimated should be in production by March, 1914. The total output of the company in October was 3,783 tons.

TRAIAN ROUMANIAN OIL COMPANY, LTD.—This company—formed in March, 1913—holds 627 acres of land situated in Campina, Baicoi, Chiciura, and other proved oil-bearing districts of Roumania. The company has been making satisfactory profits since its incorporation, the total production for the eight months ending October 31st, 1913, being 14,014 tons. Seven wells are now being drilled, and it is anticipated the first of these will come into production early next month.

OTHER INTERESTS.—The freehold land belonging to the corporation in Touapsé has considerably increased in value since the date of purchase consequent on the development of that port. In addition to the 810 acres at Krimskaya referred to elsewhere in the report, the corporation also owns the following undeveloped properties:—

MAIKOP DISTRICT—

Freehold land	...	...	...	430 acres
12 Plots	...	...	...	324 acres

URAL DISTRICT—

30 Zayavkas (applications lodged)	...	810 acres
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THE ANGLO-TEREK PETROLEUM COMPANY, LTD.

The directors' report stated that the company's operations in the Grosny field were energetically pushed forward during the period under review, but although the Grosny field in general still remained remarkable for its productivity, some great disappointments have been experienced by companies working in the western part of the field. By the end of 1912 the water trouble in that part of the field began to assume alarming proportions. For many months, however, it was hoped that plot 42 of the Anglo-Terek Company would remain immune on account of its very favourable geological situation with respect to the anticlinal. Well No. 2, on which the management's hopes were principally based on grounds fully expounded to the shareholders at the various general meetings of the company, and which had been drilled with the greatest possible care, the shutting-off of water having been successfully carried out with the approval of the local Technical Committee, commenced to produce oil steadily. Certain appliances were installed to increase the output, after slightly deepening the well, but about the middle of February, 1913, it became obvious that water had penetrated the oil layers in an alarming degree. Much controversy has taken place as to the cause of the evil, which has attacked the whole of the Western Grosny field, and then after is still in the hands of the Technical Committee. Some progress was made with their pairs on the old well No. 1 and the work of

drilling well No. 3, but when during the summer months of 1913 it gradually became clear that in the present circumstances the process of baling from well No. 2 could only be effected at a loss, the Board decided that the heavy expenditure incurred by these operations should be cut short, and the management availed themselves of the occurrence of a strike in the Grosny field to stop all operations for the time being. The directors consider it their duty to point out that the heavy expenditure and subsequent failing of the company's sources of revenue through the causes above stated have depleted its financial resources to such an extent as to give cause for some anxiety.

LONDON AND MAIKOP OIL CORPORATION, LTD.

Presiding at Tuesday's meeting of the London and Maikop Oil Corporation, Ltd., Mr. C. A. Moreing said that, with regard to the position on the field, he could not but say that he had been disappointed with the progress of the Deep Drilling Company. The shareholders were informed at the last meeting that oil had been struck on plot 108 at a depth of about 2,232 ft. That well had continued to overflow for some months, but, owing to the breaking of the casing, the production had been interrupted. As to the central section of the field, the Deep Drilling Company had proceeded with drilling on plot 321, and had reached a depth of 1,442 ft. That plot was eight miles away from plot 108, and as it was difficult to give proper management to both plots, work had been abandoned on plot 321 and concentrated on plot 108. In the eastern section they had been interested in a deep well sunk on plot 489 by the Maikop Victory Company. That well had been sunk to a depth of 2,100 ft., but sinking had had to be stopped owing to the dropping of tools into it. It had, however, been decided to exploit the oil sands encountered at a depth of 1,400 ft.

THE OUTPUT OF ROUMANIAN REFINERIES.

Statistics for September.

DURING September there were treated in the Roumanian refineries 168,974 tons of crude oil, from which 165,305 tons of products were obtained. The following table shows the details of the deliveries for inner consumption and stocks:—

	Produced in the Refineries. Tons.	Delivered for Inner Consumption. Tons.	Used for fuel in the Refineries. Tons.	In Store on Sept. 30th. Tons.
Benzine	41,252	2,618	—	85,349
Kerosene	34,303	4,862	—	147,922
Lubricating oil	5,241	2,739	7	26,655
Residuals	84,509	41,957	11,346	105,751
Totals	165,305	52,176	11,353	365,677

Of paraffin there were delivered for inner consumption 176 tons, and 101 tons were left in store on September 30th.

THE PETROLEUM IMPORT TRADE OF FRANCE DURING SEPTEMBER.

THE total quantities of petroleum products imported into France during September amounted to 69,665 tons, as against 85,256 tons imported during the corresponding month of 1912. The quantities of products imported from the various countries are shown in the following table:—

From	Crude Oil. Tons.	Kerosene. Tons.	Benzine. Tons.	Residuals and Heavy Oils. Tons.
United States	7,080	17,200	1,140	5,460
Russia	5,979	4,504	6,383	7,090
Roumania	24	3,600	945	—
Austria	—	8,000	307	—
Other countries	—	336	37	1,580
Totals	13,083	33,640	8,812	14,130

THE SPIES PETROLEUM COMPANY, LTD.

Increase of Capital and Formation of Subsidiary Company Suggested.

IN a circular to the shareholders of the Spies Petroleum Company, Ltd., the secretary, under date of the 2nd inst., says:—

In view of the favourable results recently obtained from the deeper strata on some of the company's older plots at Grosny, as well as on plots adjacent thereto, your directors are of the opinion that active steps should at once be taken to exploit these deeper strata; moreover, the company having recently acquired (on the advice of its geologists) further properties in other districts in the Caucasus, the acquisition of which has entailed heavy expenditure, while their development will demand far larger amounts, your directors consider that the time has arrived when the company should arrange to provide the capital necessary for these two purposes.

Your directors have, therefore, decided to propose an increase of the nominal capital of the company by 1,500,000 shares of 10s. each, and to issue a certain part of this capital on the terms hereafter mentioned. An extraordinary general meeting is now convened for this purpose.

For the purpose of developing the properties recently acquired in the districts of Chermoyeff-Belik and Wosnesensk, and of taking over holdings and options in various places in the Terek Government, comprising a total area of about 1,200 dessiatines, your directors consider it advisable that a new company should be formed. In this new company the interest of the Spies company will be paramount without too heavy a demand upon its resources.

The new company will be registered with a nominal capital of £500,000, of which £200,000 will be issued immediately.

Very promising results having recently been obtained on some plots in the neighbourhood of those owned by your company in the Chermoyeff-Belik district, your directors felt justified in starting work, and the necessary installations are already in course of erection. These installations will be taken over by the new company.

Subject to the approval by the shareholders of the increase of capital, arrangements have been made with Messrs. Offenheim & Co., of 34, Bishopsgate, E.C., to take 150,000 shares firm and guarantee the subscription of an issue of 150,000 shares to the shareholders at 21s. per share. As consideration, Messrs. Offenheim & Co. will receive an underwriting commission of 1s. per share on 300,000 shares, and an option over 200,000 shares at the price of 20s. per share, provided such shares are called by 13th January, 1914, or at various higher prices dependent upon the time when the option is exercised, all options to expire on 30th April, 1914.

In all cases 1s. of the above prices is deemed to be payment on account of final dividend in respect of the year ending 13th January, 1914. The above arrangements are subject to *force majeure* clauses. Messrs. Offenheim & Co. have also agreed to participate to the extent of 20 per cent. in the initial issue of capital in the new company. The directors take this opportunity of furnishing details of the operations of the company during the current year. The gross production of crude oil during the six months ended 13th July, 1913, amounted to 7,497,415 poods, and the production since 13th July to date has been 4,611,720 poods, making a total for the year to date of 12,109,135 poods. The crude oil

delivered during the first six months of the year amounted to 5,921,034 poods, and realised Rs. 1,480,258.50, or a price of 25 copecs. During the four months from 13th July to 13th November there were delivered 3,147,344 poods, realising Rs. 1,362,668.63 or an average price of 43.3 copecs. The present price of crude oil at Baku is 45½ copecs per pood, the market being firm at this level, and, in view of the reduced production at Baku, a fall is not probable in the near future. As notified at the time in the press, a strike lasting twenty-two days, occurred upon the properties of all the producers at Grosny during the months of August and September. As soon as the producers took joint action the strike terminated, the workmen accepting the conditions which were offered before they ceased work. Although during the strike there was no damage to the property or wells, the company's production was naturally curtailed by the cessation of all work. Owing to the extra work thrown upon the Grosny management by the recent strike, the full accounts for the first six months of the year have been delayed, but preliminary figures show an approximate amount available for appropriation of £96,000, including £27,125 from premium on shares. The profits for the second half of the year, in view of the higher price realised will, in spite of the strike at Grosny, be considerably larger.

The board now declares an interim dividend at the rate of 15 per cent. per annum, or 9d. per share free of tax, absorbing £56,250. This dividend will be paid on 18th December to shareholders registered on 11th December.

Drilling has been continued vigorously on the Central and Eastern Plots, as well as on the South Baskakoff plots. Plot Mistouloff, in the West Central region, is giving good results in the third stratum, and as the results at depth on neighbouring plots are also good, an extensive development on plots Mistouloff and Golubinski is warranted. On plot 74, well No. 2 has recently been brought in with a good production at a shallow depth on the northern dip. A new well will shortly be started and well No. 1 is being deepened to the same stratum. On plot 43 a new well has been producing for some time at a satisfactory rate from the sixth stratum, and another well is being deepened to the seventh stratum. The Baskakoff plot continues to give excellent returns. Well No. 18 has been brought into production in the third stratum. Well No. 19 is being deepened below this stratum, and well No. 20 has already attained a good depth, and should shortly reach the third stratum, while two wells are being deepened beneath it. On the south Baskakoff plots the four exploration wells continue to be drilled with the care and deliberation necessary on new ground, and it is expected that the oil-bearing strata in some of them will be reached shortly. The four Eastern plots have justified the increase of drilling operations, the daily average production which was last year 2,800 poods, having risen during the present year to 4,860 poods. Four wells are being drilled in this section, two of which are near the oil strata. The new electrical power station now in course of construction, although delayed by the strike, is expected to come into operation about the beginning of next year. A form of proxy is enclosed for use at the extraordinary general meeting to be held on the 11th instant, should you be unable to attend personally. The form of proxy, duly executed, should be posted to arrive at the company's office not later than Monday, the 8th instant.

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.

December 5th, 1913.

There are no alterations in the quotations for Refined Petroleum, which remain as follows:—Roumanian, 8d.; Russian, 8 $\frac{3}{4}$ d.; Galician, 8 $\frac{1}{4}$ d.; American, 8 $\frac{1}{2}$ d.; American Water White, 9 $\frac{1}{2}$ d.

LUBRICATING OILS.

The market prices are as under:—

No. 1 Russian, £12. 2s. 6d.
No. 2 Russian, £10. 17s. 6d.
American pale, from £9. 12s. 6d.
American dark, from £11. 2s. 6d.
American filtered cylinder, from £13. 12s. 6d.

FUEL OIL

is quoted 70s. per ton, in bulk, ex wharf.

GREASE-MAKING OIL.

80s. per ton, in bulk, ex wharf is the market price.

MOTOR SPIRIT

is unchanged at 1s. 9d. for the best quality, and 1s. 7d. for the second quality per gallon retail in London.

TURPENTINE.

American Turpentine is quoted, for spot, 31s. 9d.; January/April, 32s. 7 $\frac{1}{2}$ d.; May/August, 33s. 7 $\frac{1}{2}$ d.

LIVERPOOL.

December 6th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8 $\frac{3}{4}$ d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well.

INDIA.

BOMBAY, November 8th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, December 4th.

Refined, in cases, is quoted at 11.25; Standard White, 8.75; Credit balances, 2.50.

PHILADELPHIA, December 4th

Standard White is quoted at 8.75.

GERMANY.

HAMBURG, December 2nd.

The petroleum prices remain unchanged. The demand for kerosene begins to be lively, that for benzine decreasing. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, December 2nd.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 44 $\frac{3}{4}$ –45 copecs per pood spot. Kerosene, 57–58 copecs Residuals, 42–42 $\frac{1}{4}$ copecs.

ROUMANIA. December 2nd.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Francs.
Bushtenari	8.00–8.15
" " " Moreni	7.00–8.00
" " " Tzintea	5.50–6.25
" " " Policiori	5.00
" " " Bana	9.50–10.80
Paraffin	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	26.00–26.50
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	18.00–18.50
Residuals, f.o.b. Constanza	...	7.00–7.50
Gas Oil	...	8.00

AUSTRIA. December 2nd.

Crude oil is quoted 9.20 kronen spot. Kerosene, 32.50 kronen at Oderberg. Benzine, 740/750, 26 kronen; 750/760, 23 kronen, 760/770, 21 kronen, at Oderberg. Gas oil, 7.30 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, London, E.C., report under date December 4th as follows:—

Business is hampered and traffic seriously disorganised by the railway strike which has broken out at Llaunelly. The men are striking against the advice of their leaders, their alleged reason being the dismissal of two engine-drivers. The trouble is reported to be rapidly spreading throughout South Wales, and in places the coal miners have joined the strikers in sympathy. Makers' prices of oil sizes are unchanged as under:—

1c 18 $\frac{3}{4}$ × 14 124 sheets 110 lbs. 13/4 $\frac{1}{2}$ per box.
1c 20 × 10 225 " 156 " 18/9

F.o.b. Swansea. Tin lining and iron hooping extra.

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IMPORTS OF PETROLEUM PRODUCTS INTO THE UNITED KINGDOM.

Specially prepared for this Journal by the Customs House.

FOR THE WEEK ENDED DECEMBER 1ST, 1913 (excluding any
Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
Nov. LONDON—				
21/10	British Petroleum Co.	Gas	7,000	Port Arthur
24/10	"	Lamp	4,500	Sabine
25	Schliemaun Oil, etc., Co.	Lub. Oil	3,260	Hamburg
		and Gr.		
25	W. H. Muller & Co....	Lub.	40	Rotterdam
25	J. Harrison ...	Lub. Gr.	760	Antwerp
25	Union Lighterage Co.	Lub.	4,000	New York
25	Mordaunt Bros. ...	"	4,200	"
25	"	M. Colza	4,200	"
25	Anglo-American Oil Co.	Lamp	2,436,650	Philadel.
25	E. G. Boize ...	Lub.	260	Hamburg
25	Anglo-American Oil Co.	Naphtha	231,750	Kustendje
26	Beck & Pollitzer ..	Lub.	6,600	New York
26	Mercantile Lighterage Co. ...	"	16,000	"
26	Vacuum Oil Co. ...	"	37,960	"
26	Anglo-American Oil Co.	Gas	824,500	Sabine
27	Port Authority ...	Lub.	3,570	Hamburg
27	"	"	330	"
27	L. Freeland ..	Lub. Gr.	630	Antwerp
27	"	"	870	New York
27	Produce Brokers Co.	Lub.	7,800	Baltimore
27	Langley, Smith & Co.	"	5,210	N. Orleans
27	Lubricating & Fuel Oils Co.	"	3,080	"
27	"	"	3,030	"
28	Asiatic Petroleum Co.	Benzine	5,000	Rotterdam
28	"	"	1,390,500	P. Samboe
29	Bowring Petroleum Co.	Lamp	1,086,680	Port Arthur
29	Port Authority ...	Lub.	2,390	Hamburg
29	"	"	240	"
Dec.				
1	"	"	6,800	New York
1	F. Chiesman & Co. ...	"	20,010	"
1	Produce Brokers Co.	"	5,000	"
1	Valvoline Oil Co. ...	"	5,400	"
1	Scott's Wharf ...	"	10,000	"
1	Langley, Smith & Co.	"	4,530	"
1	Anglo-American Oil Co.	Fuel	92,000	Sabine
1	Page, Son & East ...	Lub.	480	Antwerp
Nov. LIVERPOOL—				
25	J. T. Fletcher & Co.	"	360	"
25	C. W. Field ...	"	290	"
25	Bootle Jute Factory Co.	"	500	"
25	Langley, Smith & Co.	"	2,200	New York
25	Liverpool Warehousing Co.	"	600	"
25	Meade-King, Robinson & Co.	"	294,000	Batoum
25	"	Lub. Resid.	60,000	"
25	Bramwell, Fern & Co.	"	60,000	"
25	"	Lub.	147,000	"
26	Huxley & Co. ...	"	2,190	New York
26	J. Light & Sons ...	Lub. Gr.	400	"
26	Vacuum Oil Co. ...	"	1,780	"
26	H. Parry ...	Lub.	250	Riga
26	J. T. Fletcher & Co.	"	380	Antwerp
28	Burnaby & Chantrell	Lub. Gr.	240	New York
28	"	"	260	Hamburg
28	Pickford's ...	Lub. Oil	820	"
		and Paste		
28	American Export Co.	Lub.	200	Boston
29	W. Crawford ...	Lub. Gr.	440	New York
29	Vacuum Oil Co. ...	Lub.	12,950	"
1/12	Anglo-American Oil Co.	"	32,600	"
1/12	Worthington & Boler	"	2,600	Galveston
1/12	J. Light & Son ...	"	400	Ghent
BOSTON—				
25	W. F. Beaumont ...	"	250	Hamburg
BRISTOL—				
25	E. Stock & Sons ...	Lub. Gr.	240	"
25	W. Grimes ...	Lub.	240	"
25	Pickford's ...	Lub. Oil	810	"
		and Gr.		
26	H. Pritchard & Co. ...	Lub.	1,050	Antwerp
27	H. Matthews & Co. ...	"	120	"
28	First Anglo-Russian Oil Co.	Lub. Gr.	250	"
28	J. & R. Bush ...	Lub.	13,600	New York
1/12	C. Hill & Sons ...	"	10,660	"
1/12	"	M. Colza	2,680	"

DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	NO. OF GALS.	PORT WHENCE.
Nov. BARROW—				
22	British Petroleum Co.	Fuel	107,550	Dutch Indies
GLOUCESTER—				
29	Bristol Steam Navig. Co.	Lub.	320	Hamburg
GRIMSBY—				
25	J. Sutcliffe & Son ...	"	150	"
HARWICH—				
22	Great Eastern Railway	"	400	Antwerp
25	"	"	120	"
28	"	"	360	"
29	"	"	20	"
HULL—				
25	T. Wilson, Sons & Co.	"	11,600	New York
27	Wilson's & N. E. Railway	"	480	Antwerp
28	W. Gilyott & Co. ...	"	4,200	New York
29	T. Wilson, Sons & Co.	"	1,120	Bari
29	Wilson's & N. E. Railway	"	1,120	Hamburg
29	"	"	640	Antwerp
MANCHESTER—				
25	Anglo-American Oil Co.	Lub. Oil	61,140	New York
		and Gr.		
25	G. B. Taylor ...	Lub.	1,200	"
25	J. T. Fletcher & Co. ...	"	480	Ghent
25	W. W. Jones, Dooly & Co....	"	7,850	New York
26	F. Leyland & Co. ...	"	2,560	"
26	Vacuum Oil Co. ...	Lub.	200	Hamburg
26	Liverpool Storage Co.	"	4,610	New York
27	Meade-King, Robinson & Co.	"	237,500	Batoum
27	"	"	5,000	"
27	Bramwell, Fern & Co.	"	5,000	"
27	"	"	237,500	"
NEWCASTLE—				
25	P. H. Matthiessen & Co.	"	270	Bergen
25	"	"	260	"
27	"	"	310	"
27	Tyne-Tees Steamship Co.	"	2,560	Hamburg
29	"	"	400	Antwerp
SOUTHAMPTON—				
28	Bowring Petroleum Co.	Lamp	336,000	Port Arthur
NEWPORT—				
24	M. Jones Bros. ...	Lub.	1,720	Antwerp
SWANSEA—				
1/12	R. Turpin & Co. ...	"	5,200	New York
ABERDEEN—				
28	R. C. Reid & Co. ...	Lub. Oil	1,720	Hamburg
		and Gr.		
DUNDEE—				
27	D. Alexander & Sons	Lub.	200	"
GLASGOW—				
25	Anchor Line ...	"	38,520	"
25	Clyde Shipping Co. ...	Lub. Oil	2,700	Antwerp
		and Gr.		
1/12	Allan Bros. & Co. ...	Lub.	46,160	Philadel.
1/12	Anchor Line	"	45,000	New York
1/12	"	M. Colza	1,760	"
GRANGEMOUTH—				
27	Jas. Currie & Co. ...	Lub.	2,560	Hamburg
LEITH—				
22	Jas. Currie & Co. ...	"	600	"
27	W. G. Yooll & Co. ...	Lamp	340	"
28	W. Gibson & Sons	Lub.	400	Antwerp
29	Jas. Currie & Co. ...	"	360	Hamburg
29	W. G. Yooll & Co. ...	Lamp	1,870	"
1/12	G. Gibson & Co. ...	Lub.	200	Antwerp
			8,065,880	
Deduct—				
LONDON—				
25/9	Port Authority	Lub.	240	S. Petersburg
21/10	Lubricating & Fuel Oils Co.	Lamp	5,260	Port Arthur
HULL—				
19/10	W. Gilyott & Co. ...	Lub.	5,540	New York
MANCHESTER—				
10/10	British Petroleum Co.	"	25,390	Port Arthur
			8,029,450	

The Petroleum Review Directory.

For the insertion of Name and Address in this Directory the charge is 26s. per annum (52 insertions); additional headings 5s. each per annum, payable in advance.

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Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.
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London, E.C.

Thom, John M., Patricroft, near Manchester.
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Spencer, Chapman & Messel, Ltd., 36, Mark Lane,
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Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.

Homelight Oil Co., Ltd., 14, St. Mary Axe, E.C.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

LIQUID FUEL BURNERS.

Kermode's Liquid Fuel System, 35, The Temple, Dale Street, Liverpool.

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The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Works Co., Pittsburgh, Pa., U.S.A.

Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

OIL BROKERS.

Benjamin & Gee, 61, St. Mary Axe, E.C.

Bramwell, Fern & Co., London, Manchester and Liverpool.

Lane & Macandrew, 26, Great St. Helen's, E.C.

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OILS.

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Anglo-Maikop Corporation, Ltd., 7, Angel Court, E.C.

Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.

Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.

Crew Levick Co., Irwell Chambers, W. Liverpool.

Homelight Oil Co., Ltd., 14-20, St. Mary Axe, E.C.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

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Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

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RUSSIAN OIL IMPORTERS.

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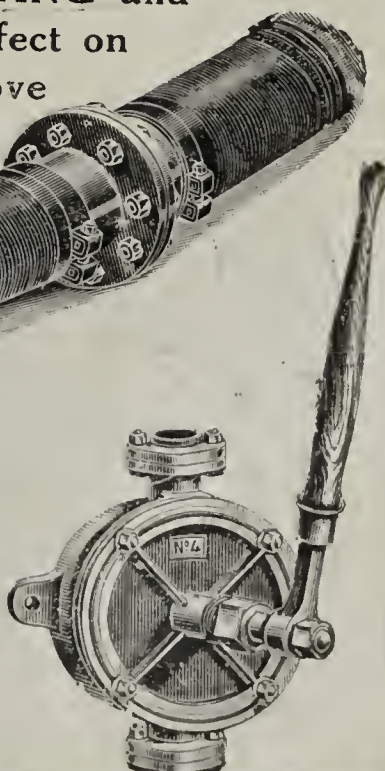
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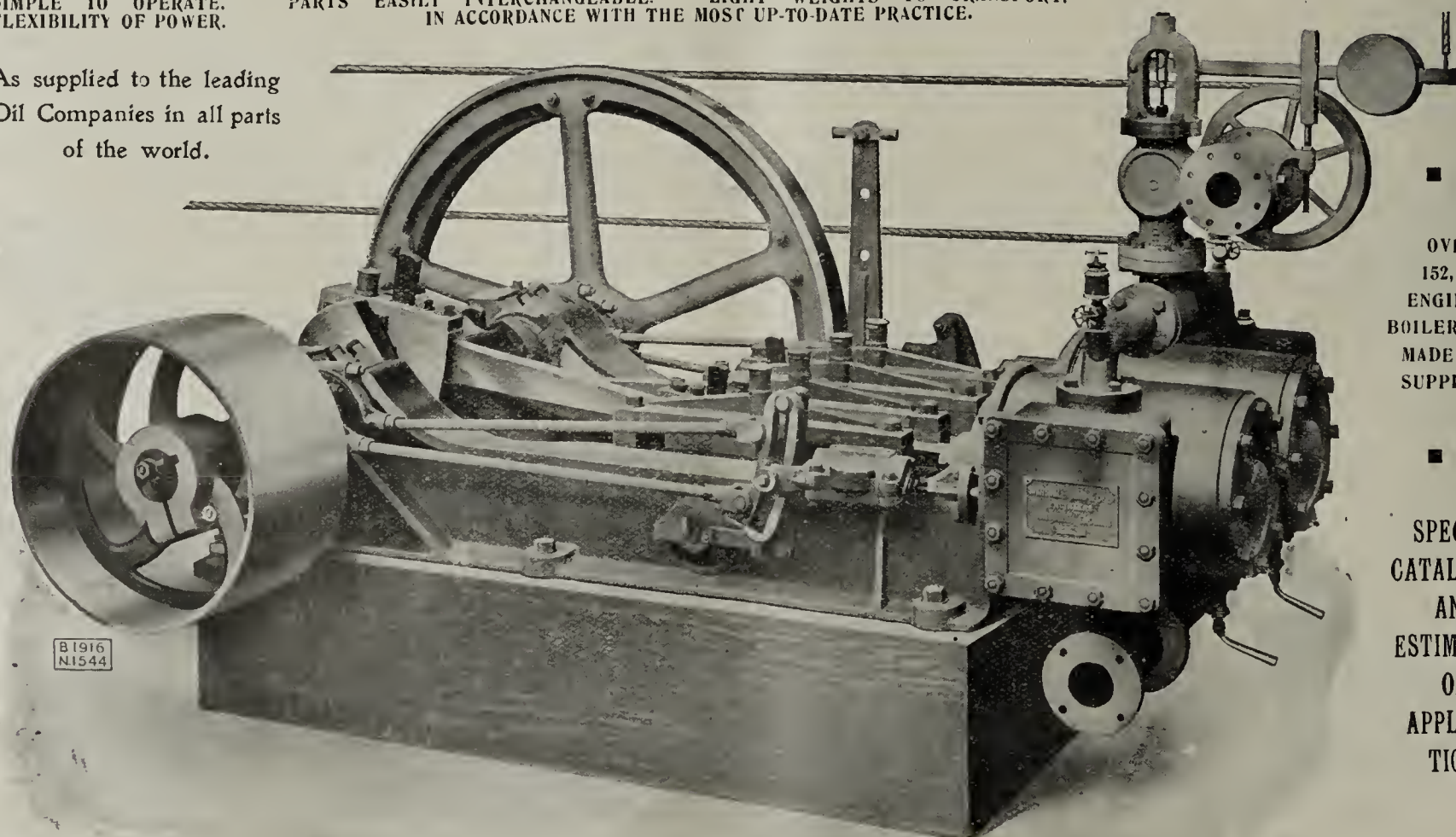
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The Petroleum Review.

Founded by PAUL DVORKOVITZ.

VOL. XXIX. (New Series.)

DECEMBER 13TH, 1913.

No. 595.

THE PETROLEUM REVIEW.

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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

Mr. George Tweedy on Maikop.

It goes almost without saying that more than ordinary interest attaches to the remarks of Mr. George Tweedy as to the prospects in the Maikop field. From the time when the Maikop field first commenced to attract

the attention of English investors down to the present day Mr. Tweedy has been the one who, more than anyone else, has advocated the claims of the region, and there is no doubt that his persistent optimism has largely been responsible for such a wealth of English finance finding its way to the Kuban province. For a long time past the enemies of Maikop have done their best to minimise the importance of the Maikop field and to throw cold water upon any schemes suggested in connection with its development. Nevertheless, the Maikop field is being steadily developed, and, though slowly, it is substantiating the claims held out for it. That one day the Maikop field will be one of Russia's great centres of crude oil production is a belief which is becoming quite popular, but patience must be exercised by all having interests in it. Of a truth, Rome was not built in a day, nor can it be reasonably expected that within the short space of three years a new petroliferous region can be thoroughly opened up. Maikop has already far more than justified itself, and if only a little life were infused into some of the companies who, though having holdings in the field, prefer to sit on the fence while others prove the territory, Maikop would rapidly rise in public favour, and its already substantial output of crude oil would be materially increased.

The Oilfields Finance Corporation.

THE directors of the Oilfields Finance Corporation are to be congratulated upon the highly satisfactory nature of their first report, which was briefly referred to in our last issue, and which was unanimously adopted, at

yesterday's meeting of shareholders. Years ago the REVIEW held that a company upon the lines of the Corporation would not only render a real service to the petroleum industry, but would be immeasurably

successful in its operations, and the fact that the Oilfields Finance Corporation has in the first year of its existence made a net profit of over £40,000 is fairly conclusive evidence that our assumptions were well based. The point, however, must not be overlooked that these profits have been made during a period perhaps unparalleled for the depression which has hung over oil investments generally. There have been very few public issues of new companies since the Corporation was formed, and thus its financial operations have necessarily been restricted; yet, in spite of this drawback, it is in the happy position of being able to declare a 6 per cent. dividend to its shareholders. To say that a remarkable future lies in store for the Corporation is to but mildly express one's opinions.

The Spies Company increases its Capital.

THE decision of the shareholders of the Spies Petroleum Company to double the present capital of the company, thus bringing it up to £1,500,000, cannot but be regarded as a wise step in view of the favourable results which have

recently been obtained from the deep strata of the Grosny field. The board, from whom the suggestion originally came, have rightly decided that the best interests of the shareholders will be served by the carrying out of an active deep-drilling programme upon their properties, and it is primarily for this purpose that the new capital will be utilised. But recently the directors of the company have acquired other interests in the Caucasus, which have naturally somewhat depleted their finances. By far the greater amount will, however, be required for the purpose of thoroughly developing these new properties, and inasmuch as they are spoken very highly of by the geologists who have inspected them, it is anticipated that they will materially add to the value of the company's assets in the long run. We gather, however, that in order that these new territories in the Terek Government may be adequately developed, the Spies Company will shortly bring out a subsidiary company, with a capital of half a million sterling, in which the interests of the Spies Company will not unnaturally be paramount. We wish continued success to the Spies Company, and trust that its subsidiary concern will be none the less prosperous.

The Making of the Eagle Oil Company's Fleet.

THE rapidity with which the Eagle Oil Transport Company is getting together its immense fleet of oil tankers is remarkable. Of the total fleet of twenty oil tankers, ten of which will have each a carrying capacity of 15,000

tons, nine vessels are already in commission, and the remainder are nearing completion. A fortnight ago we gave a description of the launching of the "San Hilario"; yesterday the "San Isidoro" took the water at Walker-on-Tyne; and this (Saturday) afternoon the "San Jeronimo" is to be launched at Sunderland. Each of these immense tankers are of the 15,000-ton order, so that within the short space of sixteen days

the company's fleet has been increased by over 45,000 tons capacity. Yesterday's launch, which will be referred to at length in our next issue, was carried out in the presence of an influential company, the launching ceremony being performed by Mrs. E. H. Mundy, while to-day's launch will be performed by Mrs. J. Tanner.

THE OIL TRUST, LTD.

THE third ordinary general meeting of the shareholders of the Oil Trust, Ltd., was held on Thursday at River Plate House, London, E.C., Sir John Lane Harrington, chairman of the company, presiding.

The proceedings were noisy and very protracted, but in the end the report and accounts were adopted, and an advisory committee of several shareholders elected to confer with the board as to future policy. The question of reducing the company's capital was raised, but it was decided to let this subject stand over until the advisory committee had conferred with the directors.

THE BRITISH AUSTRALIAN OIL COMPANY, LTD.

IN presiding at Thursday's statutory meeting of the British Australian Oil Company, Ltd., the chairman, Sir J. S. Harmood-Banner, explained that the £75,000 provided under the recent scheme of re-construction would, in the opinion of the Board, be sufficient for the company's requirements. The directors had re-engaged Messrs. Ronald Johnstone & Son as their consulting engineers, and had appointed Mr. Vivian Beaconsfield Gray, of that firm, their general manager in Australia, while as their sales manager they had secured the services of a very capable gentleman in the person of Mr. G. H. Watson, the late general manager of the Homelight Oil Company, Limited. The chairman concluded by expressing the hope that when he addressed the shareholders again after twelve months' working, he would have some very pleasant news to impart.

DEVELOPMENT OF THE PETROLEUM DEPOSITS OF THE ARGENTINE.

SOME very interesting information will appear in this week's *Board of Trade Journal* from the Consul-General at Buenos Aires respecting the development of the Argentine's oil deposits. From this it appears that the southern fields at Comodoro Rivadavia are undoubtedly the largest in the Republic. The borings go down to about 450 ft., and several gushers have been struck. Out of the ten wells that have been bored five are producing, and fresh wells are being sunk; 18,800 tons of petroleum were obtained in 1912, but the present estimated output is 28,800 tons. The oil obtained from the fields is usually of a gravity of about .946 and has an asphaltic base. It is believed that some 2,000,000 tons of oil fuel would be needed to displace the coal used in the country, a quantity that would represent the output of 151 wells.

The Commissioners have recommended the immediate development of the Comodoro Rivadavia fields at a cost of £1,310,000. The plant recommended includes 12 drilling rigs, 6 steel storage tanks (each having a capacity of 1,320,000 gallons) and 20 similar tanks (with a capacity of 44,000 gallons), refining plant (capable of refining 66,000 gallons of oil per diem), pumps, motors, piping and loading installations, at a total cost of £704,000. In addition to the plant, four tank vessels of a total carrying capacity of 15,000 tons are recommended at a cost of £304,000. A sum of £147,900 is also suggested for the purchase of 28 storage tanks of 660,000 to 1,320,000 gallons each. These tanks would be distributed among the principal ports, where depôts will be established.

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended December 6th was 120,000 poods.

SPIES PETROLEUM COMPANY, LTD.—The production for week ended December 7th was 274,645 poods, or about 4,430 tons. The total production for the year from January 14th to December 7th was 12,383,780 poods, or about 199,738 tons. The total production for the corresponding period last year was 15,109,605 poods, or about 243,703 tons. Price of crude oil at Baku is now 41½ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended December 6th was 21,291 poods, or 343 tons.

EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended December 7th was 105,200 poods, or 1,696 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended December 6th was 118,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended December 6th was 24,512 poods (395 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended December 6th was 8,050 poods (130 tons).

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended December 7th was 15,347 poods, or 247 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended December 6th, 107,975 poods, or 1,742 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest production for week ended December 9th was 5,898 tons. Corresponding period last year, 1,708 tons. Total production to date for this year, 118,934 tons; last year, 33,809 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended December 7th was 101,133 poods, or 1,631 tons.

MAIKOP MIDLAND.—Production at Krinskaya for week ended December 6th was 8,500 poods, or 137 tons.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended December 6th was 15,553 poods (250 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended December 6th was 1,600 poods (26 tons).

CHELEKEN OILFIELDS, LTD.—Estimated production for the fortnight ended December 6th was 1,867 tons.

GERHARD & HEY,
OILFIELDS SHIPPING AGENTS,
Great St. Thomas Apostle
 (Off Cannon Street),
LONDON, E.C.
ESTABLISHED 1856.
 Telephone: City 8840 (4 lines).

THE ASIATIC PETROLEUM COMPANY, LTD.

OPENING OF THE NEW OFFICES IN ST. HELEN'S COURT.

AT the invitation of the directors of the Asiatic Petroleum Company, Ltd., one of the most representative gatherings of gentlemen associated with the petroleum industry took place at St. Helen's Court, on Thursday afternoon, the occasion being the opening of the Asiatic Company's new palatial offices.

Spacious though the former premises at the Baltic Exchange have been, it has for a long time been felt that the Asiatic and its associated companies needed larger premises for their needs, and it was on this account that the site of the New Synagogue in St. Helen's Court was purchased, the structure demolished, and in its place erected a building which certainly ranks as one of the best—architecturally and otherwise—in the City of London.

A few details of the new imposing structure will be perused with interest. The building covers an area of over a quarter of an acre, and, including the basement and sub-basement, it has eleven stories, the total height is 125 feet, and the building has an area of exactly one million cubic feet.

The building has a frontage of solid grey Aberdeen granite, and all the other elevations are either of white glazed bricks or white glazed fireclay. The decorative woodwork throughout the building is mostly mahogany. There are two interior main staircases and three lifts, the structure being one of the few in the city which has no outside staircase. The lighting arrangements have been carried out by Messrs. Owen Lucas & Pyke, consulting engineers, the system adopted being that of indirect electric light—a vast improvement upon the old style, inasmuch as, with the new, no shadows are cast. The whole of the building is heated by atmospheric steam, this portion of the work having been carried out by the Atmospheric Steam Heating Company, under the supervision of Mr. Martin. For their water supply the offices are totally independent of the city supply, a very productive artesian well having been sunk while building operations were in progress. A central disinfecting plant has been installed, and by means of pipes to every floor the building will each week be completely disinfected. Every room is fitted with an electric clock.

The architects for the building have been Messrs. Joseph & Smith, and the builders Messrs. Dove Brothers, and in both cases they have done their work in an exemplary manner.

The tablet at the entrance details the companies who are to take up possession of the offices. They are:—

The Anglo-Saxon Petroleum Company, Ltd.; the Asiatic Petroleum Company, Ltd.; the Asiatic Petroleum Company (Straits Settlements), Ltd.; the Asiatic Petroleum Company (Federated Malay States), Ltd.; the Asiatic Petroleum Company (Egypt), Ltd.; the Asiatic Petroleum Company (India), Ltd.; the Asiatic Petroleum Company (North China), Ltd.; the Asiatic

Petroleum Company (South China), Ltd.; the Asiatic Petroleum Company (Siam), Ltd.; the British Imperial Oil Company, Ltd.; the British Imperial Oil Company (South Africa), Ltd.; the British Imperial Oil Company (New Zealand), Ltd.; the Oxygen & Drum Company, Ltd.; the Anglo-Egyptian Oilfields, Ltd.; the Helouan Petroleum Company, Ltd.; the Kotuku Oil Fields Syndicate, Ltd.; the Ceram Oil Syndicate, Ltd.; the s'Gravenhage Association, Ltd.; the St. Helen's Estates, Ltd.; the Grosny Sundja Oilfields, Ltd.; the New Schibaieff Petroleum Company, Ltd.; the North Caucasian Oilfields, Ltd.; the Ural Caspian Oil Corporation, Ltd.; and the Schibaieff Petroleum Company, Ltd. (in liquidation).

Thursday's reception, which was held in one of the upper parts of the building, was of a particularly informal character, and we regret that it is impossible to give anything approaching a complete list of the numerous guests present. Among the large company, however, we noticed Sir Marcus Samuel, Bart., chairman of the Asiatic; Mr. H. W. A. Deterding, managing director of the Asiatic; Mr. R. Waley Cohen, Dr. Arnold J. C. Stuart, Mr. Fred Lane, Mr. H. Loudon, and Mr. Isidore Braun, directors of the Asiatic; Mr. Samuel Samuel, M.P.; Mr. H. N. Benjamin, Mr. G. B. C. Dunlop, Mr. Mark Abrahams, Dr. Capadose, Sir Reginald McLeod, Mr. A. V. Dunlop Best, Mr. Walter Samuel, Mr. Walter Levy, Mr. C. S. Gulbenkian, Mr. H. N. Mosditchian, Mr. J. Waterkeyn, chairman of the Akhverdoff Company; Mr. T. Pollak, Caspian and Black Sea Society; Mr. W. Ritter von Ofenheim, Mr. A. S. Debenham, manager of the Asiatic; Mr. G. S. Engel, controller of accounts for the Asiatic; Mr. P. M. Tresfon, controller of accounts for the Anglo-Saxon Petroleum Company; Mr. C. C. Tayloe, general manager of the Anglo-Saxon; Mr. Richard Airey, general manager of the British Petroleum Company; Mr. George Lane, one of the managers of the British Petroleum Company; Mr. S. Hodgkinson Lowe, chief cashier of the Asiatic Petroleum Company; Mr. H. J. Diven (Messrs. Morton, Owen & Co.); Mr. T. Kean; Dr. P. Dvorkovitz; Mr. T. C. J. Burgess, London and Thames Haven Oil Wharves, Ltd.; Mr. Alfred Benjamin (Messrs. Benjamin & Co.); Mr. George W. Mancell (Galizische-Karpathen Petroleum A.-G.); Mr. J. J. Pritty and Mr. Abbott (E. W. Bliss Co.); Mr. R. H. Mackenzie (Oil Well Engineering Company, Ltd.); Mr. Gee (Messrs. Rhodes & Son); Mr. Ockenden (Oil Well Supply Company); Mr. R. Lambert; Mr. J. Orchard; Mr. G. Strauss, and others.

Sir Marcus Samuel and his co-directors received the hearty congratulations of the guests, and many were the good wishes for the continued prosperity of the Asiatic and its associated companies.

Publicity.—All enterprising firms advertise in the REVIEW. Shall we quote you Rates? Send a postcard to—Advertisement Manager, REVIEW Offices, 45, St. Mary Axe, London, E.C.

THE SPIES PETROLEUM COMPANY, LTD.

INCREASE OF CAPITAL UNANIMOUSLY AGREED TO.

AN extraordinary general meeting of the shareholders of the Spies Petroleum Company, Ltd., was held on Thursday, at Cannon Street Hotel, E.C., for the purpose of considering, and, if thought fit, passing, the following resolution: "That the capital of the company be increased to £1,500,000, by the creation of 1,500,000 shares of 10s. each, numbered from 1,500,001 to 3,000,000 inclusive." Mr. James Anuan Bryce, M.P. (chairman of the company), presided.

The Secretary (Mr. H. G. Trew) having read the notice of the meeting,

The Chairman said: Ladies and gentlemen, our business to-day is to consider a proposal for the increase of capital. The circular which you have in your hands explains the reasons, but I wish to say a few further words on the subject. The proposal is that the capital should be raised from £750,000 to £1,500,000, but, as stated in the circular, it is only proposed to issue at present £150,000, with option, which, if exercised, will bring the issue up to £250,000. The total issued capital would in that case amount to £1,000,000, leaving £500,000 still unissued. The main reason for asking the consent of shareholders to the creation of an amount of capital largely in excess of immediate requirements is that the formalities in Russia in connection with an increase of capital take a considerable time, while it is highly desirable that on occasion the board should be in a position to decide promptly on an issue, either because an opportunity for business might occur which had to be dealt with immediately, or because the conditions of the money market might necessitate speedy action. Moreover, in view of the fact that the oil interests all over the world have a tendency towards concentration, it is of great importance that your company should be recognised as having a power of rapid expansion, a power which would enable it to make its voice heard when the occasion arises. I need, however, hardly say that your directors will only avail themselves of such power of issue when the interests of the company seem to demand it, and would, of course, be guided by the view of the possibility of earning an adequate return on any issue which they might decide to make. I now turn to the reasons for the issue, which the board has decided to make immediately. You will have seen that two special objects are at present in view. The first of these objects is the active development of certain sections of your old properties.

You are aware that the early properties of the company are situated in the central section of the Grosny field, and it had been generally supposed that these properties were approaching exhaustion, but lately the developments at depth, both on one of our own plots and on some plots belonging to our neighbours, have shown results so excellent as to warrant a recasting of this opinion. Our plot Mistoulloff, which until lately gave only about 3,500 poods per week, is now giving about 22,000 poods per week, owing to the boring of a new well to depth, and 15,000 poods per day have recently been obtained from a well on the neighbouring property of the North Caucasian Company. Your directors are therefore of opinion that the exploitation of your central plots at depth should be actively prosecuted. Further to the east, and a little to the south of our rich Baskakoff plot, we lately acquired, as you know, four plots, totalling 40 dessiatines, which are known as the South Baskakoff plots. On each of these plots there is one well in course of drilling, but oil has not yet been reached, although, in the opinion of the management, the oil strata are now very near. The progress of the work has been slow. There has been, as mentioned at last general meeting, some delay from non-delivery of pipes, but, apart from this, it has been necessary to proceed with great deliberation, not only because the territory is a new one, of which there has been no previous experience, but because, the dip of the strata being severe, much caution has to be exercised to prevent the descent of the pipes being stopped by cavings of the strata. It is, however, a very satisfactory feature that the strata encountered show strict conformity with the strata in Plot Baskakoff, and

therefore the belief is warranted that the prolific oil sands met with in that plot will also be found in the four southern plots. The wells on these plots will have to be drilled to upwards of 3,000 ft., and will therefore be costly, so that an extended development of the plots calls for the expenditure of large amounts of capital. The shape of the plots lends itself to the location of a large number of wells. It will be possible to drill thirty-two wells on the northern boundary alone, and immediately results are obtained from the trial wells the policy would be to sink a large number of wells on that line. I now come to the second object of the present issue of capital—namely, the provision of funds for the replacement of capital expended in the acquisition of properties outside the old Grosny field, and for their development. The most important of these at the moment are the properties acquired in the Chermojeff-Belik field, which is distant about four miles to the east of the town of Grosny, and in the Wossnessensk field, about twenty-five miles to the west of Grosny. The former properties extend to 40 dessiatines, and the latter to 80 dessiatines. In the Chermojeff-Belik field two very good wells have been brought into production on neighbouring plots; one of them giving 15,000 poods per day, and our geologist, Dr. Porro, considers that our plots should give results at least as good, if not better. At Wossnessensk oil has already been struck on a plot near one of ours, and drilling is being actively prosecuted by our neighbours. In other districts exploration work has been carried on, a number of ziavki have been acquired, and options have been secured.

As you will have seen from the circular, it is proposed to form a new company to work these properties. A development of them by your company alone would involve the expenditure of a very large amount of capital, and your directors consider it desirable to secure the co-operation of outside capital, while retaining the management and a paramount interest. The terms of sale to the new company will be based upon the refunding to the Spies Company of its outlay and a royalty of 1 copec per pood on the production. In the event of the new company being successful the development will obviously require further capital, to which the Spies Company would contribute, and your directors hope that the results will warrant them in such further contribution. Now, gentlemen, I come to the question of the agreement made for the underwriting of the new issue. The terms are specified in the circular, and your directors consider that they are very satisfactory for the company, especially considering the state of the money market. It has been said that a large bonus should have been given to the shareholders, to which I answer that this would have been bad finance for the company. If anyone asks why an underwriting contract has been thought necessary, my reply is that previous experience has shown that, even where there has been an underwriting contract the shareholders have not taken up the whole of the issue, and it is absolutely necessary for the finance, as well as for the credit, of the company, to make sure of a complete subscription. I now pass from the matter of the issue to the question of the results of the present year. So far as the first half of the year is concerned, they fall short, as you will see, of those of the same period of last year by about £27,000; but, notwithstanding a loss of about £45,000 by the strike, your directors hope that the results of the latter half of the year will enable them to maintain the dividend at last year's level.

You are aware that the contract for the sale of oil made in June, 1909, was due to end at December 31st, 1914. Under that contract there was for the first 6,500,000 poods a minimum price of 16 copecs and a maximum of 25 copecs, and for deliveries in excess of that amount Baku price, minus certain deductions. It is an absolute necessity for a producing company to make certain of an outlet for its output. At the time the contract was made it was an excellent one, and was of advantage to the company for the first three years. Latterly the contract has, of course, been burdensome, and you will be glad to learn that a new contract has been made to come into operation on January 1st, 1914. Under this contract up to 18,000,000 poods per annum are taken at the full Baku price. To compensate the buyers for the cancellation of the old contract, the difference in price on the first 6,500,000 poods will be spread over three years by a deduction of 4 copecs until the whole difference is made up.

I conclude by moving: "That the capital of the company be increased to £1,500,000 by the creation of 1,500,000 shares of 10s. each, numbered from 1,500,001 to 3,000,000 inclusive." I will ask Mr. Milne to second that.

Mr. G. Grinnell-Milne, in seconding the resolution, said he trusted and believed that the results would be commensurate with the largely increased powers which they were asking them to give.

The motion was then carried unanimously, and the proceedings terminated.

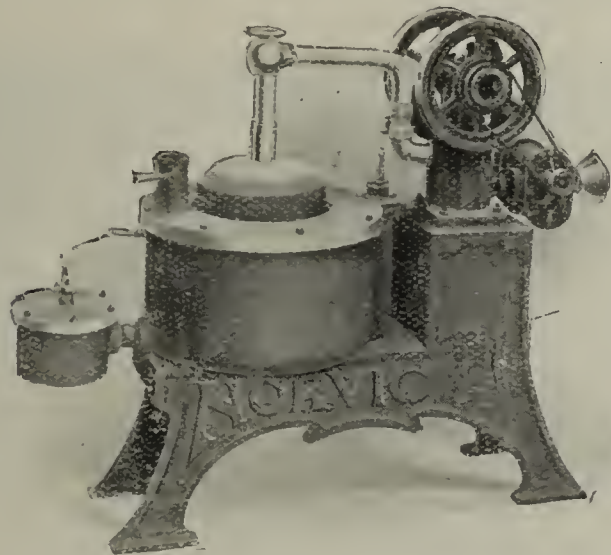
Popular Systems of Petrol-Air-Gas Lighting.

(Special to the "Review.")

(Concluded from page 618.)

The "Norvic" Air-Gas Plant.

MESSRS. BOULTON & PAUL, LTD., of Norwich, are manufacturers of the "Norvic" patent air-gas plant, which is here illustrated. The plant for this year has only a small number of improvements over the 1912 model. It is of the hot-air-engine-driven type, producing gas 3 per cent. petrol, 97 per cent. air. The gas is a combustible mixture as supplied to the burners, and the burners do not take any extra air. The gas can be utilised for heating or cooking. The principal system of the plant is the hot-air engine driving a small rotary blower, the air from same passing round the jacket provided on the engine, which serves the purpose of warming the air and keeping the engine at a normal temperature. The air is in turn passed through an air bell, which keeps the gas at a constant pressure. The surface of petrol, which is kept at a constant level by a special system of floats, is exposed to the air, which is



distributed over its surface. The quantity of air that is delivered to the surface is in exact proportion to the amount taken from the plant to supply the burners, and by systems of regulating the exposed surface of petrol to the air, the strength of the gas is kept at correct proportion for a varied number of lights. The plant is generally designed for export purposes, and is claimed to be the smallest plant for its capacity. It is made in sizes from 20 to 80 lights. Practical results show the "Norvic" plant to cost about 1s. 2d. per 1,000 feet of gas, at which figure it will be noticed it can lay just claim to being over 50 per cent. cheaper than gas in the most advantageously situated town. When such a light is forthcoming for villages and out-of-the-way private residences, the great economy of the "Norvic" plant is all the more apparent. Messrs. Boulton & Paul, Ltd., also have a range of gas cookers and gas stoves for use with the "Norvic" light.

The "Simpitrol" Plant.

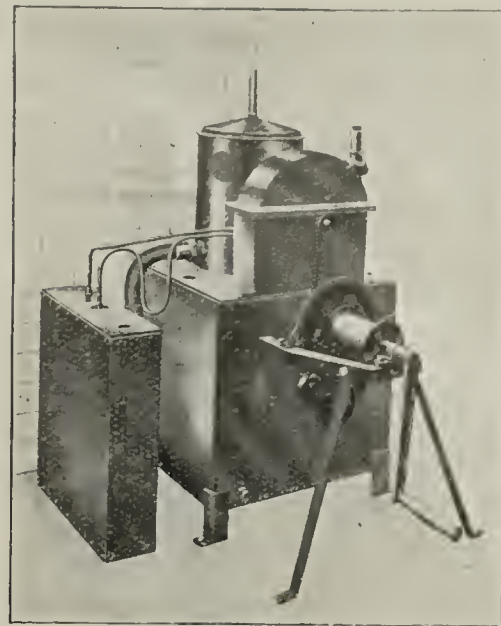
The British and Colonial Lighting Company, Ltd., who are the manufacturers and marketers of the "Simpitrol" lighting plant, have reason to congratulate themselves upon the success which their system of lighting has achieved both in this country and abroad.

"Simpitrol" lighting plants are supplied to be driven either by weights, water power, or hot-air engines. However, when it is a question of very large installations, other modes of power are utilised, either electric motors or petrol engines, but in some instances for factories the power is obtained by a transmission to the main shafting.

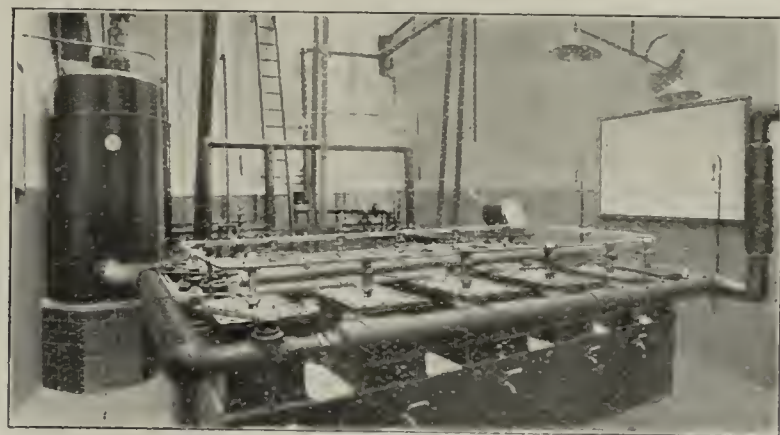
The plants which are the most popular are the weight-driven, and the firm's yearly output is at present, including export, about six hundred machines.

One of the principal features of the "Simpitrol" systems is that a so-called weak mixture is utilised, consisting of $1\frac{3}{4}$ per cent. petrol vapour and $98\frac{1}{4}$ per cent. of air, and there is no air adjustment at the burners whatsoever. Practical experience has proved that this enables the user to obtain a higher candle power than is the case with rich mixtures. The light is absolutely steady and the atmosphere of the rooms thus illuminated does not become vitiated at all.

One of the largest installations of the "Simpitrol" light in this country is at the Alexandra Mill, Preston, where a 2,000 light plant has been giving every possible satisfaction for two or three years. The cost of lighting



A Weight-Driven Plant.



Installation for 2,000 Lights.

this factory with lights of 83,500 candle power works out at 7s. per hour, as compared with 22s. for lights of 48,264 candle power formerly employed.

Spensers' "Ideal" Lighting System.

Messrs. Spensers, Ltd., 53, South Molton Street, London, W., have for a long time been associated with oil-gas lighting. Of late, however, they have patented a most important process for the vaporisation of ordinary motor-car spirit of 720 sp. gr. Messrs. Spensers claim that there are no other machines in the market,

weight or water driven, that utilise a spirit of this heavy density, but they require a special spirit of .680 sp. gr. in order to produce complete vaporisation without heat.

In Messrs. Spensers' latest process vaporisation is done by a method in which the air vaporises a portion of the .720 petrol, leaving a residue of about .760 sp. gr. This residue is passed into another portion of the petrol tank (isolated from the main petrol tank), and a very small amount of this residue is passed into a duplex carburettor, so that the air is passed first through the residue carburettor; the air, which being uncooled when entering, completely vaporises the

small portion of .760 given to it at a mixture of about $\frac{1}{4}$ per cent. This air, impregnated as specified, then passes through to the main carburettor, where it is impregnated still further to the extent of $1\frac{1}{2}$ per cent., so that the resultant gas is impregnated to the extent of about $1\frac{3}{4}$ per cent., thus completely

vaporising the ordinary motor-car spirit cold, which has never yet been done before.

The generators are made with a revolving drum, after the principle of a gas meter, accurately measuring the air, the petrol being proportioned by two spoon feeds, one of which dips into each of the petrol tanks, ensuring perfect and accurate proportions being maintained.

Such is the success of this system that the lighting of the village of Saughall, Cheshire, has been placed in the hands of Messrs. Spensers, Ltd., 53, South Molton Street, London, and which contract they are now busily executing. They have further received the order for the lighting of Balcombe, Sussex, with a 1,000-light generating plant.

The Hygienic Institute, of Devonshire Street, made a six hours' test of this new process, with all air drawn through a cylinder of ice, with perfect results.

The Mercury Safety Air-Gas Plants.

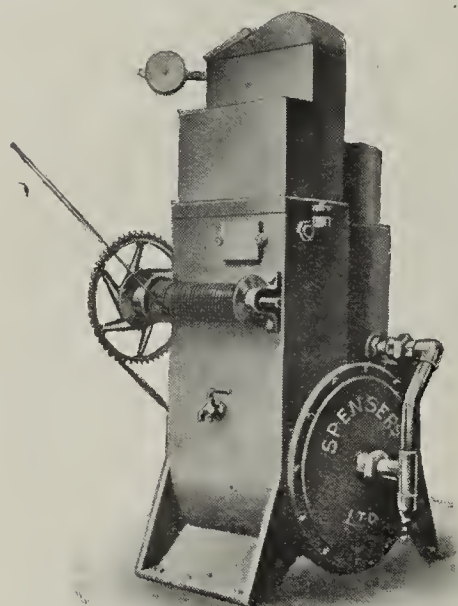
These machines are manufactured under Mr. Alan Macpherson's patents in Glasgow, and are better known in Scotland than in the south. The company's headquarters are at 90, West Regent Street, Glasgow, with a London agency at 47, Victoria Street, Westminster. The "Mercury" machines are of two types—weight-driven and water-driven (the latter being here illustrated), the main principle in each type being the petrol feed, which is regulated to supply gas in exact accordance with the quantity required at any specific time. Consistent regularity of working is a special claim made by the company, with consequent uniformity in the volume of light provided at the lighting points.

In the case of the machines driven by water power, a small motor, which consumes a very moderate

quantity of water, is brought into operation automatically by the falling of a gas holder, having about $1\frac{1}{2}$ cubic ft. capacity. The action of the water motor refills the gas holder, and automatically turns the water off when it is full. Turning on one burner sets the machine in motion, and it supplies no more petrol spirit than is requisite for one light, and so on with additional lights to the full capacity of the machine. Shutting off all the burners stops the flow of the water entirely, also further supplies of petrol spirit, thus avoiding waste of any kind.

The weight-driven machine consists of a series of chambers, which revolve in a hermetically-sealed drum half filled with water. The revolutions of these chambers create an equal vacuum and an equal pressure, causing them to take in the prescribed volumes of air and petrol spirit vapour, on the one hand, and deliver the prescribed quantity of petrol air gas, on the other hand, in exact accordance with the number of burners alight.

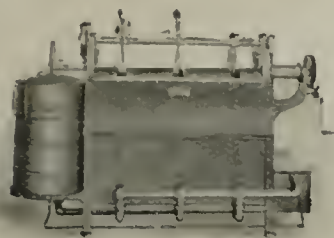
A large number of "Mercury" plants of both types are successfully working in isolated parts of Western Scotland, where skilled labour is unobtainable, while in the south the company have successfully lighted a large hotel (over three hundred lights) and several large houses, churches, etc., in addition to more modest



installations for smaller country houses. With the weight-driven type of machine it has been found possible to utilise spirit of a very low grade, and one or two plants have been successfully worked with .760 spirit for the last nine months without difficulty.

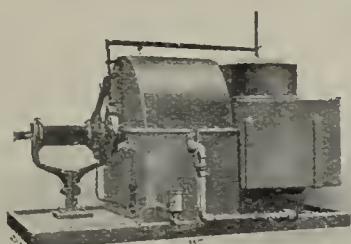
The "Premier" System.

The Premier Lighting and Engineering Company, Ltd., have for years made a speciality of the machine which bears their name, and which to-day is widely known. The "Premier," which has many advantages, is manufactured in two types, both of which are here illustrated. One is for installations for country houses and the like, where a maximum of thirty lights is



required; the other installation is capable of supplying 250 lights, and is thus suitable for factories, public buildings, etc. This system of petrol air lighting is entirely different to others on the

market, being built upon distinct and novel lines. The "Premier" is a gas-making machine. It requires no starting: the mere fact of turning on a single burner at any point in the installation instantly operates the machine. The plant automatically makes the required amount of gas for any number of lights from the minimum to the maximum: and when all are turned off, so does the machine immediately stop making gas. There is perfect control of the petrol. The air is delivered in measured quantities at an equal unvarying pressure, and to this is added the spirit in like minutely measured form, and both air and spirit being actuated from the same centre, it is impossible to vary the mixture whether much or little gas is being made. The motion of the "Premier" is very slow, being about one per minute with full load; consequently, the wear upon parts is reduced to a minimum.

**THE GERMAN SECTION OF THE INTERNATIONAL PETROLEUM COMMITTEE.**

A VERY interesting discussion will take place at Karlsruhe, in Germany, on the 16th to the 18th of this

month, at the meetings of the German section of the International Petroleum Committee. The following is a summary of the various subjects which will be discussed:—

- (1) The value of gas oil for the manufacture of illuminating gas.
- (2) Examination of coke produced from fuel oils.
- (3) Contents of creosote in fuel oil.
- (4) The definition of tar residues received in the course of the manufacture of lubricating oil.
- (5) On asphalt.
- (6) Regulations with regard to the transport of mineral oils and mineral oil mixtures.
- (7) Memoranda on the regulation of railway transport of fuel oils.
- (8) A proposal by Dr. Singer for the next general meeting "for establishing a committee in connection with the construction of works, refineries, etc."
- (9) Regulations for petroleum tank steamers in ports.

NEW ENGLISH COMPANIES.**THE AMERICAN CENTRAL OIL SYNDICATE, LTD.**

REGISTERED on December 2nd, by Mayo, Elder & Co. 10, Drapers' Gardens, E.C. Capital, £5,000 in £1 shares. Objects: To carry on the business indicated by the title. Signatories: Frank A. Saxon, 58, Percy Road, North Finchley, N., and Edward L. Cozens, 2, Forest Villas, Walpole Road, South Woodford. First directors (who are to number not less than two nor more than five) are to be appointed by signatories. Remuneration: A percentage of the profits. Private company.

THE RENARD PETROLEUM PROCESS COMPANY, LTD.

Registered on December 8th, by Rutherford & Co., 48, Cannon Street, E.C. Capital, £200,000 in £1 shares. Objects: To acquire and turn to account a process for cracking petroleum and for the production of benzine and other light petroleum spirits. Minimum cash subscription, seven shares. Signatories include S. H. Blake and D. J. Young. First directors (who are to number not less than two nor more than ten) are to be appointed by signatories. Qualification, 1,000 shares. Remuneration, £350 per annum. Registered office, City House, 48, Cannon Street, E.C.

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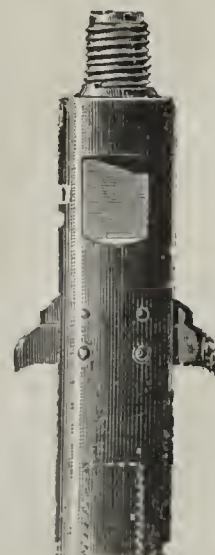
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CORRESPONDENCE.

To the Editor of the PETROLEUM REVIEW.

BRITISH AND AMERICAN RIGS.

SIR,—I have read with interest Mr. W. H. Peak's further letter regarding the new Crown Block for use with the Parker Mogul Rotary and Combination Outfits.

Mr. Peak appears to me unduly concerned to claim as the exclusive "Standard" of his company what is really quite ordinary practice, viz., the provision of some kind of adjustment and lubrication for Crown Block Pulleys.

Our own view of this was perfectly expressed by Mr. Peak in his first letter when he said "the desirability, not to say necessity, of these details in connection with Crown Blocks is really so obvious that we have not thought it necessary to make a special advertising feature of them."

What we really did claim was that our new invention provides a fine adjustment and a continuous and lasting lubrication of the pulleys far superior to the ordinary standard, and which is obtainable from no other maker.

I am pleased to be able to add that the success of the new Crown Block is demonstrated by the orders already received for Parker Mogul Rotaries thus equipped. I am, Sir, yours truly,

J. H. SKILTON, *London Manager*,
J. F. Lucey Co.

DETAILS OF GROSNY PRODUCTION DURING SEPTEMBER.

THE following table gives the details of production of petroleum on the Grosny fields, together with the number of productive borings and the new depths bored during the month :—

Firm.	Number of Wells.					New Boring Feet.
	Number of Plots.	In Exploitation.	In Boring and Deepening.	Total (in poods).		
Spies Company	28	55	17	930,975		2,153
Akhverdoff Company	9	69	11	2,052,900		676
Wishaw	4	29	2	437,400		176
Russian Standard	5	16	5	303,940		222
Maximoff Trustees	6	13	9	202,800		1,153
Anglo - Russian Maximoff Company	2	19	4	194,500		224
Tchelen-Daghestan Company	9	21	10	259,900		1,792
North Caucasian Company	8	20	21	704,850		5,451
Caspian Black Sea Company	1	3	—	8,070		—
St. Petersburg Company	5	10	—	11,700		—
Anglo - Terski Petroleum Company	—	—	—	—		—
Moscow Petroleum Company	1	7	2	106,100		222
Skhirtladze	9	8	8	186,100		1,409
Tikhonisroff	1	5	3	59,975*		721
Totals	88	269	89	5,459,310*		11,199

* Including 48,000 poods spouted oil.

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„ Servian ...	6,700	New Steamer	6,200	„ Luciline ...	5,200
„ Carpathian	6,700	„ „	6,200	„ Le Coq ...	4,700
„ Roumanian	6,700	„ Terek ...	5,200	„ Rock Light...	4,100
S.S. Lux ...		2,900 Tons of Oil.			

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LATEST QUOTATIONS OF PETROLEUM SHARES.

ENGLISH COMPANIES.

This list is restricted to companies who have paid dividends or who are producers.

Company.	Share Capital.	Value of Shares.	Latest Prices.
	£		
Anglo-Maikop Corporation...	650,000	£1	10,0-11/0xd
Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. (fully pd.)	600,000	£1	$\frac{29}{32}$ - $1\frac{1}{32}$
„ 5% Deb. Stock ...	600,000	£100	91-96
Assam Oil ...	310,000	£1	$\frac{19}{32}$ - $\frac{23}{32}$
Baku Russian Petroleum Co.	750,000	10/-	5/3-5/9
Bibi-Eibat Oil Co. ...	250,000	10/-	7/0-8/0
European Oilfields ...	385,000	10/-	6/9-7/9
Lobitos Oilfields, Ltd.	400,000	£1	$2\frac{1}{6}$ - $28\frac{1}{6}$ xd
Oilfields Finance Corp., Ltd.	600,000	£1	$\frac{3}{4}$ - $\frac{7}{8}$
Pacific Oilfields, Ltd.	250,000	£1	3/0-4/0
Roumanian Consolidated			
Oilfields ...	1,750,000	£1	20/6-21/6
Russian Petroleum Co. ...		10/-	3/6-4/0
Schibaieff Petroleum, new Pref. (fully paid)	690,000	—	$1\frac{5}{16}$ - $1\frac{7}{16}$ xd
„ „ new Ord.		(fully paid)	14/9-15/9
Shell Transport and Trading	7,000,000	£1	$4\frac{15}{16}$ -5
„ „ „	3,000,000 Pref.	£10	10 $\frac{1}{4}$ -10 $\frac{1}{2}$
Spies Petroleum Co. ...	750,000	10/-	22/6-23/6

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	702	706
Caspian Society (Issue 1910) ...	1,000	3,200	3,210
A. I. Mantascheff & Co. ...	250	705	708
Nobel Bros....	5,000	19,200	19,300
Nobel Bros. (Issue 1912) ...	250	1,006	1,011
Russian Naphtha Society ...	100	277	279
Ter-Akopoff Co. ...	250	430	435
Lianosoff & Co. ...	100	258	260
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	395	400

SCOTCH PRICES.

Supplied by Messrs. MACLEAN & HENDERSON, Stirling.

Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	36/9 xd.
„ 6% Cum. Pref.	100,000	£10	£10 $\frac{15}{16}$ xd
Burmah Oil, Ord. ...	1,100,000	£1	73/3
„ Pref. ...	250,000	£1	26/6
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
„ 5% Pref....	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	6/6
Mexican Eagle Oil, Ltd..			
Non. Cum. Pref. ...	\$8,500,000	\$10	38/0
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	36/0
„ Pref. (£1 paid) ...	100,000	£1	21/4 $\frac{1}{2}$
Premier Oil Ord. ...	2,300,000	£1	6/9
Pumpherstons Min. Oil Co., Ltd.			
Ord. (17/- paid) ..	110,500	17/-	$5\frac{11}{16}$
„ 6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	9/6
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	74/3 xd.
„ „ „ “B” Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).	
Dordtsche Petroleum Industrie My., Ord. ...	Aand	185
„ „ „ „ Pref. ...	„	189
Royal Dutch Petroleum Co. ...	„	625
Moeara Enim Petroleum Maatschappij ...	„	244
Perlak Petroleum Maatschappij ...	„	39
Sumatra Palembang Petroleum Maatschappij	„	231
Zuid Perlak Petroleum Maatschappij, Pref.	„	37
Tarakan Petroleum Maatschappij ...	„	127

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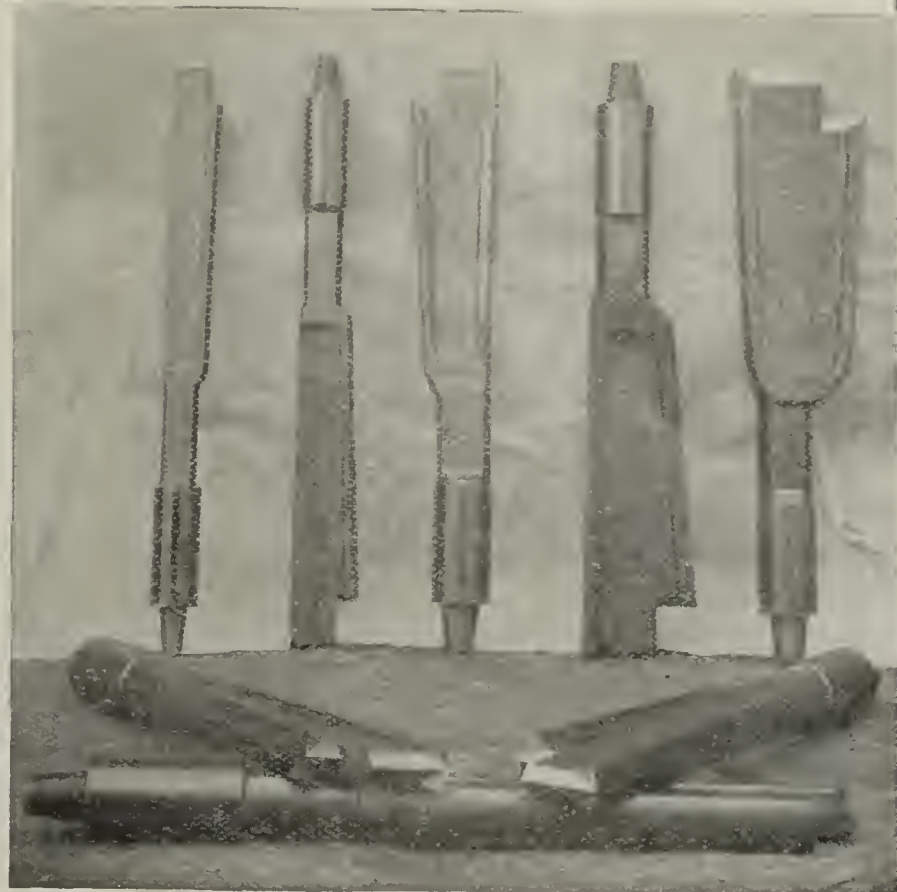
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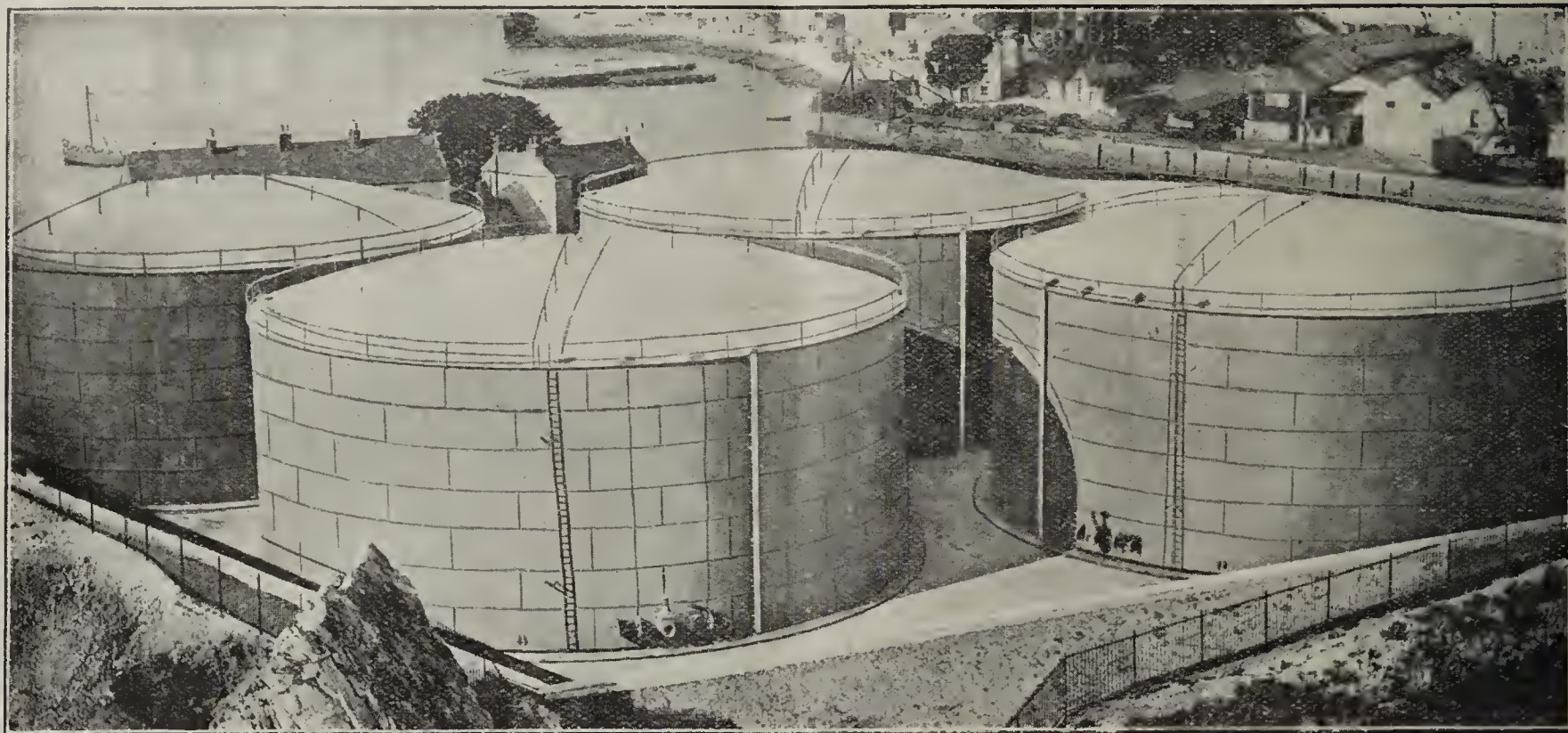
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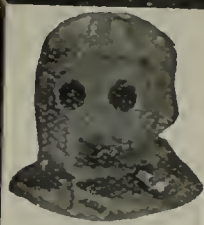
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CHIEF CONTENTS.

	PAGE
Editorial Notes	631
Production of English Companies in Russia	632
The Asiatic Petroleum Company, Ltd.	633
The Spies Petroleum Company, Ltd.	634
Popular Systems of Petrol-Air-Gas Lighting	635
Latest Quotations of Petroleum Shares	640
The Arrival of the "Murex" and its Consequences	643
Classified Imports into the United Kingdom	644
Notes from the Oilfields	645
A Study of Boring Waters	646
The Advantages of Liquid Fuel for Marine Purposes	647
The Mexican Eagle Oil Company, Ltd.	648
The Decline of Oil-Producing Wells	649
The Anglo-Maikop Corporation, Ltd.	651
Home and Foreign Market Intelligence	653
Imports of Petroleum Products	654
The REVIEW Shipping List	655

THE PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, DECEMBER 13TH, 1913.

THE ARRIVAL OF THE "MUREX" AND ITS CONSEQUENCES.

ON February 10th, 1902, the tank steamer "Murex," of the "Shell" Transport and Trading Company, arrived at the Thames Haven Oil Wharves, London, with the first cargo of petroleum spirit in bulk.

The arrival of this steamer was looked forward to with the greatest interest, not only by the leading

representatives of the petroleum industry in this country, but also by the Russian and Japanese Governments as well as the naval authorities and other interests.

The reason for the interest displayed was threefold: in the first place, the steamer, instead of travelling via the Suez Canal, which was the usual route for tank-steamers from the Far East, travelled via the Cape; then she was the first vessel to run on liquid fuel, and covered a distance of 12,000 miles on the very small consumption of 16 tons of oil fuel per day: thirdly, the most important fact was that the "Murex" brought the first cargo of motor spirit from the Far East in bulk.

Unquestionably this was the forerunner of the possibility of developing an enormous business in motor vehicles, which could not have been possible but for the fact that motor spirit in large and sufficient quantities was obtainable, and, strange as it may now appear, it was only in the REVIEW of January 16th, 1904, that we commenced to classify "Benzine" in our classified table of imports of petroleum products into this country.

The success which the motor spirit brought into this country from the Far East achieved was such that it could only be maintained by bringing together the leading producers in the Far East, so that a combination of interests might be attained in connection with the exporting of the spirit, which until ten years ago was a drug in the producing countries, and, in fact, had to be burnt to waste.

Therefore it was imperative to create a permanent organisation for the distribution of the petroleum spirit in England as well as other European countries.

At that time the sole supply of motor spirit was in the hands of the Standard Oil Company, which had at its command the excellent world-wide organisation for the distribution of petroleum products. Therefore it was, first of all, a question of amalgamating the interests of the leading producers in the Far East, and in this respect two companies were prominent—the Royal Dutch Company and the "Shell" Company. These two companies, as is known, have joined forces with a few other producing companies, the idea of the amalgamation being to represent their interests in bringing the oil into this country.

To organise a distributing concern in England as well as on the Continent, money alone was not sufficient. Such an organisation required a great deal of time and also suitable, experienced men. The "Shell" Company

and the Royal Dutch Company, through their able representative, Mr. Deterding, came to the conclusion that it would be in their interests to entrust the distribution of their motor spirit in England to the British Petroleum Company, Ltd., which company then and now has a perfect organisation for the distribution of petroleum products, and especially of kerosene.

In this company the chief shareholders were the firm of Rothschilds, which concern had also large interests in the distribution in the Far East of the lamp oil produced from their Baku fields.

As a result, the Asiatic Petroleum Company, Ltd., was formed in June, 1903, with a capital of £2,000,000, of which £1,500,000 has been issued for the purpose of dealing with the production of petroleum products in Russia and the Dutch East Indies, and in this company the "Shell" and Royal Dutch interests are represented by about 100,000 shares of £10 each, or two-thirds of the issued capital and the remainder by the Rothschilds interests.

The result of this happy combination, which is represented by three firms in the persons of Sir Marcus Samuel, Bart., Mr. H. N. Benjamin, Mr. R. W. Cohen, representing the "Shell" interests; Mr. H. W. A. Deterding, Dr. A. J. C. Stuart, and Mr. Loudon, the Royal Dutch interests; whilst Mr. Fredk. Lane, Mr. Is Braun, and Mr. T. Weill represent the Rothschild interests. This combination is undoubtedly one of the strongest of brain and money power, and is bound to be a permanent success.

Although the Asiatic Petroleum Company does not publish its balance sheets, yet its activity has been expressed in the widening of the enormous interests with which that group is occupied. During the course of the last ten years the combination has considerably expanded its interest in the producing fields of the world. The Baku enterprises and the Russian distributing concerns are closely associated with it, and, in addition, it has extended its interests to the Ural-Caspian and Grosny fields, Roumanian fields, and recently to the petroleum fields of America to an enormous extent.

In fact, the premises which they formerly occupied at the Baltic Exchange were not large enough to accommodate the hundreds of clerks and officials necessary for such a large organisation, and, therefore, it was expedient for them to remove to their present quarters at St. Helens Court, Great St. Helens, E.C., particulars of which building are published elsewhere in this issue.

P. DVORKOVITZ.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO DECEMBER 1st, 1913.

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Belgium ..	—	250	16,000	701,163	—	—	—	—	3,940	58,990	—	120	—	5,070	19,940	776,593
Canada ..	—	—	—	9,820	—	69,660	—	—	—	—	—	—	—	—	—	79,480
Dutch Indies ..	70	70	—	—	—	—	—	—	—	40,309,050	—	407,047	—	—	70	40,716,167
Germany ..	6,750	221,540	30,330	5,404,860	—	600	—	211,810	180,000	651,640	—	800	—	4,610	217,080	4,495,860
Holland ..	—	—	70	10,040	—	—	—	—	5,000	7,354,340	—	—	270	860	5,340	7,365,240
Mexico ..	—	5,753,800	—	—	—	—	—	1,038,280	—	1,528,800	—	12,812,160	—	—	—	21,133,040
Roumania ..	—	18,992,357	—	440,060	—	—	—	1,150,000	—	5,802,950	325,000	9,352,540	—	—	325,000	35,737,907
Russia ..	—	9,844,560	2,480	12,893,211	—	513,390	—	—	—	11,889,350	—	—	—	—	2,480	35,140,511
U.S.A. ..	12,050	110,112,517	520,560	44,357,324	—	231,755	36,720	60,107,120	—	23,706,880	980,500	6,753,760	10,620	903,245	1,560,450	246,172,601
Other Countries	—	80	750	148,470	—	480	—	—	—	4,859,240	—	62,870	—	1,105,460	—	6,176,600
	18,870	144,925,174	570,190	61,964,948	—	815,885	36,720	62,507,210	188,940	96,161,240	1,305,500	29,389,297	10,890	2,019,245	2,131,110	397,793,999

NOTES FROM THE OILFIELDS.

AMERICAN.

The Electra Field.—This field has recently been materially extended by the bringing in of a well producing 200 barrels daily some hundreds of feet outside hitherto defined producing ground. As a result, drilling operations are assuming much importance.

Canada's Declining Production.—The total output of crude oil in the Canadian fields last year is officially reported at 243,336 barrels, as compared with over 291,000 barrels during the preceding year. When the oil shares are commercially exploited, however, it is anticipated there will be a substantial increase.

Californian Oil Gushers.—The Midway field of California still continues to be the centre of drilling interest owing to the several oil gushers lately brought in. The two wells of the Standard Oil Company on the McNee Lease are now reported to be holding up a production of from 8,000 to 10,000 barrels daily, while the Northern Exploration Company's well has broken loose and is producing more than 18,000 barrels daily.

RUSSIAN.

Volga.—The Moscow Volga Petroleum and Trading Company Bibi-Aibat has been acquired by the trading and shipping company Volga.

Increase of the Levy for Petroleum.—The Military Administration has decided to increase the levy on petroleum production from one-fifth of a copek to half a copek per pood on oil obtained on the lands of the Caucasian Kazak Military.

A Large Deal.—The Moscow-Kazan Railway has acquired from the Russian General Oil Company 30,000,000 poods of petroleum at a price of 38 copeks. The above quantity is to be supplied to the Kazan Railway during the next six years.

New Petroliferous Plots.—There are at present 35 new plots disposable for exploitation on the Apsheron Peninsula, for which there were over 2,000 demands addressed by persons desirous of acquiring these plots. A special committee of the mining department is engaged in sorting these demands.

State Petroleum Exploitation.—The Ministry of Ways of Communication has now completed a project of a law, which it will present to the Duma for the establishment of State petroliferous exploitations on the Apsheron Peninsula, for the purpose of supplying State railways with fuel.

I. N. Ter-Akopoff Petroleum & Trading Company.—According to the decision previously arrived at by the shareholders of this company, the administration is now engaged in increasing the capital from 4,500,000 roubles to 9,000,000 roubles by means of issuing 18,000 shares, nominal value 250 roubles each, at a price of 375 roubles.

Finnish Railways and Petroleum.—The administration of the Finnish State Railways has made a contract with the Russian American Society of petroleum products for the supply of cylinder oils. The same company supplied the railway during the last year with mineral oils. In view of the very firm situation on the market, the price at which the contract has been made is 37 per cent. higher than last year. The contract stipulates the supply of 100,000 kilos of oil during the next six months.

New Petroleum Company.—The Ministry of Trade and Industry has been addressed by a Russian group to sanction the formation of a new petroleum company with a capital of 1,500,000 roubles in 15,000 shares of 100 roubles each. The new company will exploit petroleum in the Baku district and in other localities of the Caucasus, and the administration of the new company will be in Moscow.

New Petroleum Plots at Saboonchi.—The Minister of Trade and Industry has granted the demand of several petroleum

producers to lease to them without auction 27 plots, of a total area of 12 dessiatines, situated at Saboonchi, for the purpose of petroleum exploitation. The minimum compulsory production will be 300,000 poods per dessiatine, and the royalty to the State will amount to 35 per cent.

ROUMANIAN.

Columbia.—Well No. 1 of this company at Moreni is being bored with great activity, and is expected to enter into production at any moment.

Exportation.—Exportation is very active, although still handicapped by difficulties in transport; residuals are particularly in demand.

The Steaua Romana.—The production of this company during the last week averaged 1040 tons a day of which 537 tons were obtained at Campina, and 292 tons at Policiori.

Romana-Americana.—The average daily production of this company now amounts to 1,100 tons, of which 1,050 tons are produced at Moreni, and the rest at Bustenari, Bacoi, and Tetzcani.

Production.—The general production is on the increase. Great activity prevails on all the oilfields, and some wells have just struck petroliferous layers, so that there is every hope for a considerable increase in the production in the near future.

New Franco-Roumanian Enterprise.—A powerful group of French financiers has acquired extensive territory at Bordeni at the price of 300,000 francs, and various areas at Runcu at the price of 150,000 francs. The new company will shortly start boring several wells.

State Pipeline.—The completion of the State pipeline, Bacoi-Constanza, is being actively pushed forward. The 18,000,000 francs granted by the law for the erection of the pipeline on March 11th, is exhausted, and a further sum of 5,500,000 francs is now being demanded.

Acid Works of the Steaua-Romana.—The Steaua-Romana intends to considerably increase its works for the manufacture of sulphuric acid. All necessary machinery has already been ordered, and in about six months' time the factory will be able to produce double the quantity.

Carpatia.—Under this name a new company has been formed by the German Petroleum Company for the purpose of boring for petroleum. The capital of the new company is very small—100,000 francs—but notwithstanding this small capital the company will manage a very extensive business.

Production of the Astra-Romana during November.—The production of this company during November amounted to 33,440 tons, of which 25,520 tons were obtained at Stavropoleos, 3,765 tons at Bana, 1,224 tons at Filipeshti, 2,844 tons at Campina 70 tons at Bacoi and 17 tons at Glodeni.

Prices.—Prices of crude oil remain very firm on the basis of 8.15 francs per 100 kilos for Bushtenari type. There is no oil on the market at all, and there is no indication of any decrease in the prices. The prices of products on the interior market are also very firm; residuals still keep ahead, owing to their being in great demand.

"A.-G. Fuer Petroleum Industrie, Nuremberg in Roumania."—This company, which has a privileged situation on the benzine market in the South of Germany, has decided to extend its organisation in order to purchase benzine, which it will rectify and sell in Germany. For this purpose the company has acquired a productive well at Bordeni and various territories. It has also acquired the refinery "Scarlat Paraskeva" at Ploesti. The total sum invested in all these purchases exceeds 1,000,000 francs.

A STUDY OF BORING WATERS.

By Engineer A. WEINFELD, Bustenari.

FULL knowledge of the conditions prevailing in oil wells, as regards boring waters, is, of course, of great importance in all practical matters concerning boring for petroleum, and, therefore, all the circumstances which in one way or other influence the appearance and action of water when coming into contact with petroleum contained in petroliferous strata, have to be carefully studied.

When petroleum and water are enclosed in one and the same receptacle, the former being of lower gravity naturally ascends to the top of the latter. It would be expected that as soon as a water column penetrates into the porous petroliferous strata, petroleum would be separated from the latter, traverse the column of water and come to the top of it, but owing to the force of capilarity causing the adherence of petroleum to the walls of the pores, and to those of the capillary tubes formed of the latter, the natural result of the action of the hydrostatic law does not follow, for the crude oil remains in the pores of the sand stratum, notwithstanding the high pressure of the column of water.

Very interesting and conclusive experiments have been carried out by Richard Sorge and W. Emminger, as regards the pressure of water in a column and that of crude oil of a petroliferous stratum. Glass tubes 25 m.m. wide and 1,500 m.m. long placed horizontally, were filled with fine sand the grains of which were 1/10 m.m. in diameter; both ends of the tubes were closed with wire netting of a mesh 1/2 m.m., and connected with two vertical tubes, one of which contained water to a height of 825 m.m., and the other Roumanian crude oil of a specific gravity of 0.825 to a height of 1,000 m.m. As soon as the pressure in one of the vertical tubes was increased by the addition of a quantity of liquid of the same nature as that in the tube, an equal quantity was at once precipitated into the

horizontal tube until an equilibrium in the two vertical tubes equal to the previous one was again re-established.

The above experiments were, of course, carried out simply with crude oil alone, but in the natural process matters are complicated by the influence of additional resistance caused by the continuous movements of the petroleum in its strata, and also by the ever-changing pressures of the gas captured in the strata. These continuously changing conditions of inner movements of the petroleum and pressure of the gases cause the equilibrium always to be ruptured, with the result that the pressure of water counterbalancing the pressure of the crude oil is often unequal to the re-established pressure as shown by the level of the crude oil in the column. Thus a small column of water is sometimes sufficient to make equilibrium to a very large column of petroleum; in other words to cause the affluence of a considerable quantity of the latter. In other cases the reverse may take place, when important traces of crude oil noticeable with a column full of water, entirely disappear as soon as this latter is extracted. All this points out to the importance of the water when in contact with strata, and hence the necessity of providing for a complete reduction in the pressure of the water column as soon as there appear in the well indications of a stratum of petroleum being near.

Once the waters are isolated the operations become very easy and accidents unlikely, provided, of course, the tubes used for the isolation of waters are of sufficient thickness to resist the outside pressure, otherwise the whole part of the column which is under the water level will be deformed, and possibly cause the abandonment of the well, but quite different are the circumstances in wells, in which the waters could not have been isolated.

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The Advantages of Liquid Fuel for Marine Purposes.

LECTURE BY PROF. W. H. WATKINSON.

PROF. W. H. WATKINSON delivered an interesting lecture a few days ago in the theatre of the Liverpool University upon the subject of "Recent Developments in Marine Propulsion," in which he made lengthy reference to liquid fuel for marine purposes. He said that the greater possibilities of the internal combustion engine, as compared with the steam engine, and the results already achieved with marine Diesel engines, must compel increasing attention to be given to the development of the internal combustion engine. With the latter the fuel might be either coal or oil, but at present there was no gas producer available suitable for marine purposes, and very few men appeared to be devoting themselves to the solution of this important problem. The line of least resistance for marine work was the use of oil fuel, as this did not involve the use of gas producers and their accessories.

The fact, established by actual experience at sea, that the weight of oil required per b.h.p. hour by Diesel engines was only from one-quarter to one-fifth the weight of coal required with steam engines, whether of the reciprocating or of the turbine type, enabled oil fuel to be used with commercial success even when the price of oil was six or seven times the price of coal, because of the other savings and advantages obtained with those engines. Until recently the only fuel used on board ship, with very few exceptions, had been coal, but within the last few years oil fuel had been gradually introduced for generating steam in warships.

For marine purposes in general oil fuel had many and great advantages over coal; its heat value per lb. was 50 per cent. greater than that of coal, so that even with steamships only two-thirds the weight of fuel was required; it could be stored in the double bottom and in other remote parts of the ship; it was self-trimming; it could be put on board in much less time and with entire absence of dirt and dust (with steam plant fewer or smaller boilers were required), stokers and trimmers were not required, and there was no need for quarters for them; it was not liable to spontaneous combustion, and there were no ashes to be got rid of.

The sources at present available for oil for Diesel engines were—(1) From crude oil obtained from wells; (2) shale oil, as obtained in Scotland; and (3) tar oil. The present output of crude oil from wells was about 50 million tons per annum, but the whole of this was not, of course, available for Diesel engines.

It had been estimated that if all the power propelled ships in existence were propelled by Diesel engines of the present realised efficiency, the amount of fuel oil required per annum would be about 25 million tons. In Germany, owing to a heavy import duty on oil, a great deal of attention had been devoted to the manufacture of oil from coal tar, and practically all the heavy oil engines in Germany were run on tar oil, of which the output during this year would probably amount to about one million tons. That was probably

about five times as much as would be required for all the ships of her navy, if those were propelled by Diesel engines; and as a Diesel engine ship could carry sufficient oil to enable her to go to any part of the world, fight her battles, and return home without taking in any fresh supplies, the relative advantages which this country at present possesses, due to our coaling stations, would vanish if she were to adopt Diesel engines for the propulsion of her ships of war.

Possibly the realisation of this great increase of her power had had something to do with the enormous expenditure of energy and money on researches and other experimental work in connection with Diesel engines in Germany. We, unfortunately, had no natural supply of oil in this country, and if we are to continue to use coal for marine propulsion, we must devote ourselves to the evolution of a suitable gas producer. Coal, however, was not a source of heat energy only, but it could be made the source of valuable products, such as sulphate of ammonia and tar.

The amount of tar at present produced in this country was insufficient to provide much of the oil which would be required for marine purposes, but we might soon find it more profitable to convert coal into coke or coalite and gas, either in the neighbourhood of the coal mines or near great centres of population, than to burn raw coal for domestic and power purposes. The introduction of the oil engine for marine purposes, instead of diminishing the value of our deposits of coal, might actually lead to a great increase in their value by compelling us to utilise our coal more scientifically, so as to obtain from it the valuable products which it was capable of yielding, in addition to heat for power, metallurgical, and domestic purposes.

The total output of coal from British mines in the year 1910 was 264,433,000 tons, the total amount of coal exported during that year was 62,085,900 tons, while the amount used for various purposes in this country and on British ships amounted to over 202,000,000 tons. If the whole of this 202,000,000 tons of coal, instead of being burned in the raw state, had been converted into coke or coalite, it would have been possible to obtain from it about 20,000,000 tons of tar, and from this tar about 8,000,000 tons of tar oil, suitable for use in Diesel engines, could have been obtained. This weight of oil would, if burned in Diesel engines, be equivalent to at least four times this weight of coal burned in steam boilers—that was, it would give at least the amount of power obtainable from 32,000,000 tons of coal.

The weight of coal used in British steamers engaged in foreign trade during 1910 was 19,500,000 tons, and the amount required for warships was about 2,000,000 tons. It was, therefore, evident that we might in this way obtain more than all the oil required for the propulsion of all our ships, both of the Navy and the mercantile marine.

THE MEXICAN EAGLE OIL COMPANY, LTD.

THE report of the directors of the above company, which was submitted to a meeting of the company on Thursday, at Mexico City, reads as under:—

The board of directors beg to submit the accounts of the company and the balance sheet as at June 30th, 1913.

(Mexican.)

The balance at the credit of the Profit and Loss account for the year amounts to	...	\$8,166,517.16
<i>Less—</i>		
Transfer to Fields Redemption Account	...	\$2,607,089.62
Transfer to Depreciation Reserve Account	...	943,918.00
		<u>3,551,007.62</u>
Leaving Net Profit for year after allowance for Depreciation and Fields Redemption Accounts	...	4,615,509.54
To which is added the balance brought forward from last year of	...	631,805.29
		<u>\$5,247,314.83</u>
<i>Deduct—</i>		
Dividend of 8 per cent. per annum paid on the Preference Share Capital of the Company for the year ended June 30th, 1913	...	680,000.00
		<u>\$4,567,314.83</u>
Balance of Profit unappropriated	...	\$4,567,314.83
which it is proposed to apply as follows:—		
Transfer to Legal Reserve Account, 5 per cent. of Net Profits	...	\$230,775.47
Carry forward to next year	...	4,336,539.36
		<u>\$4,567,314.83</u>

During the year, and on the advice of its geological department, the company has secured twenty-five attractive leases of a total area of over 50,000 acres, and, in addition, has purchased a freehold estate of 30,000 acres with good oil indications. The cost of acceptable oil lands is increasing year by year.

The great oil companies of the world are now operating, either directly or through subsidiaries, in Northern Vera Cruz, and this fact alone shows that it is expected Mexico will become a very great oil-producing country. In the oil business success can only be attained by an exceptionally large capital expenditure, security of tenure, and freedom from oppressive taxation.

The results of the year's drilling have been satisfactory. The oil areas of two of the fields have been satisfactorily extended and new wells of a prolific character have been brought in.

A new field was brought in two months ago in the Los Naranjos district, Well No. 1 coming in with an estimated flow of 5,000 barrels per day.

The Potrero-Tuxpam 8-in. pipeline continues to work without a hitch. The deep-sea loading berths have proved so successful for the rapid dispatch of tank steamers that it has been found unnecessary to provide more than three berths for the time being, whereas four berths were contemplated. Since December last, to date, over 200 ships have been loaded at Tuxpam, and, on the average, each has been loaded and dispatched within two and a-half days of its arrival. The pumping and sea-line facilities now enable a ship to be loaded at the rate of 10,000 tons per twenty-four hours.

The Tanguijo-Tampico 8-in. pipeline is completed to Bustos (90 kilometres), where it is temporarily connected to the existing 6-in. pipeline, and oil is now being pumped direct from Tanguijo to Tampico. The barging of the oil has, consequently, ceased. It is expected that the intermediate pumping stations, the branch line to Los Naranjos (22 kilometres)—the new field previously referred to—and the last section of the 8-in. pipeline to take the place of the 6-in. pipeline now being temporarily used, will all be completed not later than next June.

The conversion of the mule tramway from La Peña (the terminus on the lagoon near Tanguijo) to Potrero (40 kilometres) into a narrow-gauge steam railway will, it is expected, be completed and in use for its full length before the end of this year. An extension of this railway to Tlacolula (20 kilometres) will be commenced with the dry season. It will largely pass through properties owned or leased by the company, which it is desired to develop in the immediate future.

As the cost of transportation by road wagons is so great, and as for six months in the year (during the rainy season) such

transportation is practically impossible, it is desirable, before extensive development is undertaken in proven fields, that they should be connected, by means of mule tramways or narrow-gauge steam railways, with water navigation or existing railways. This involves considerable capital outlays, but without such connections proper and economical development is impossible.

The erection of the first unit of the Tampico Refinery is progressing satisfactorily, and it is anticipated that it will be in full operation by June next. The erection of the second unit is being temporarily held back, so that any improvements suggested by the working of the first unit may be duly embodied.

The refinery is located on the Tampico River, 6 kilometres from the centre of the city and 2 kilometres from the mouth of the river. The Tampico Electric Light, Power, and Traction, Ltd., is now electrifying its tramways, and is extending same past the refinery to the new suburb of Tampico, situated at the mouth of the river. With this tramway, the railways, and the river frontage, all serving the refinery, it is most conveniently situated.

The refinery at Minatitlan is working well and the new paraffin wax plant is completed and at work. The company's new offices at Tampico are nearly completed and are now occupied by the office staff. The company's domestic trade has been more than maintained.

The Anglo-Mexican Petroleum Products Company, Ltd., has closed important contracts for the supply of fuel oil from the company's refineries. It is building two additional main depots in England for the storage and distribution of all classes of petroleum products, and tankage for fuel oil is being erected in South America.

The agreement under which the Anglo-Mexican Petroleum Products Company, Ltd., purchases the company's export products is working smoothly. The company's brands of bitumen (or asphalt) are now well and favourably known as materials eminently suitable for all classes of road construction and maintenance in all climates. The company's fuel oil is now being used in Europe, including Russia, and in South America. It is believed that the present markets with the new markets that are being opened up will easily absorb, at satisfactory prices, the whole of the company's output of this product. The sale for the company's crude oil is satisfactory, and large quantities are being supplied to the United States.

The company has subscribed, at par, for £500,000, being one-half of the ordinary share capital of the Eagle Oil Transport Company, Ltd. The facilities that will be afforded by that company's fleet of twenty vessels, the total D/W tonnage of which will exceed 250,000 English tons, will enable the company's products to be delivered to the most profitable markets. The vessels have been designed with every regard to efficient working, and are proving most successful and economical in their operation. In common with all shipbuilding delays have been experienced in the deliveries from the builders, but nine vessels are to-day in commission, and good progress is being made in the completion of those not yet delivered.

In June last the company entered into a contract to sell £1,500,000 Convertible Six per Cent. First Mortgage Bonds, part of a total authorised issue of £3,000,000. The proceeds of this issue were received after the end of the financial year, and are, therefore, not included in the accounts under review.

By the terms of the issue of these bonds, the holders have the right, at any time before July 1st, 1918, to convert into ordinary shares at the rate of one fully paid share of \$10 for every principal sum of £3 represented by these bonds. To provide for this conversion, the authorised ordinary share capital has lately been increased by \$10,000,000.

The directors deplore the continuance of the unsettled conditions in some parts of the Republic—conditions which naturally add to the costs of operations and to the difficulties and delays in carrying on the business of the company—but, at the same time, they desire to express their gratification at the fact that the company has suffered little direct interference with their operations.

The directors feel that the result of the year's working will be deemed by the shareholders to be satisfactory.

It is over twelve years since the first drilling operations were undertaken by the immediate predecessors of this company. Since that time private enterprise supported by foreign capital has spent huge sums in opening up Mexico as an oil-producing country. This company alone, with its allied concerns for transport and sales, has incurred a cash outlay of over 100,000,000 pesos.

The directors are glad to think that, after years of patience, hard work, and anxiety, there is now every prospect of the shareholders gradually reaping an adequate return for their risk and enterprise.

They desire to express their great indebtedness to the officers and staff for their zeal and success under conditions which have, during the past year, become much more onerous, and have tested, to a very exceptional extent, their loyalty and ability.

THE DECLINE OF OIL-PRODUCING WELLS.

POSSIBLE CAUSES AND SUGGESTED REMEDIES.

By Mr. L. G. HUNTLEY.

THE reasons for the decline of oil wells may be grouped in two classes—those due to natural causes and those due to poor management. Since the early days of the petroleum industry, improvements in methods of production have to a large extent been confined to lessening the cost of drilling wells and to reducing the cost of surface operations. Although well-known physical laws offer a possible solution for all underground problems, yet the amount of carefully gathered data is so scarce that general deductions must be cautiously made. Hence this paper discusses both phases of the cause of decline, describes some of the remedial measures now employed, and gives suggestions as to possible means of bettering present methods of operating.

In general, the yield of a well declines in one or both of two ways: (a) Suddenly, after the initial spurt due to local relief of pressure, or (b) with relative slowness after the production has become settled.

In most districts the wells begin with a relatively large initial production that is followed by a rather rapid decline to a stage during which the decrease is more gradual. The initial spurt, which in many cases represents the flowing period of a well's life, is due to a relief of the supersaturated condition of the sand. The sudden release of pressure results in a spurt of petroleum, usually in the form of an emulsion with spray, caused by the expansion of the contained gases, that lasts for a variable length of time. The duration of this period of high production depends on local conditions, such as the porosity and structure of the sand, the extent and development of the pool, the character of the oil, the rock pressure, the position of the well with reference to the centre of production, to salt water, and to other conditions of less importance.

Carrl likens the producing life of an oil well in the high-grade oilfields to drawing beer from a barrel, as follows:—

“The barrel is placed in the cellar and a bar pump inserted—at first the liquid flows freely through the tube without using the pump, but presently the gas weakens and the pump is called into requisition, and finally the gas pressure in the barrel becomes so weak that a venthole must be made to admit atmospheric pressure before the barrel can be completely emptied even by a pump.”

Another factor in the rapid decline of wells following the initial spurt is the relief from the supersaturated condition of the sand, allowing the drag caused by the friction of the oil through the sand to make itself apparent. The gaseous hydrocarbons in the immediate vicinity of the well dissipate themselves in the initial flow, and the production therefore falls off, owing to a lessening of the expulsive force. In flowing wells this marks the beginning of the “stripping stage.”

The character and porosity of the sand will influence the duration and amount of the initial flow, which, if from a loose, porous sand, will be more violent and will affect a larger radius than if from a fine compact sand.

Under ideal producing conditions the decline of a well would depend on only three main factors: (a) The quantity of oil available; (b) the rock pressure; and (c) the character and porosity of the sand. Hence all efforts should aim at a proper understanding of the various conditions that complicate these main factors, govern the productivity of a well, and abnormally hasten its abandonment. The rapid decline of many wells from large producers to small pumpers, while at the same time large producers are being completed in the same vicinity, is evidence that these abnormal factors are at work.

Petroleum in the so-called paraffin oilfields consists of hydrocarbons of the paraffin series, which range from the heaviest oil to the lightest gas. The gaseous constituents of petroleum exist in what may be likened to a solution, much like the gas in a bottle of soda water, and as such expand and escape when the pressure is relieved by a well. The sudden expansion and volatilisation of such light hydrocarbons has a refrigerating effect, like the expansion of ammonia gas in an ice machine, chilling the remainder of the liquid petroleum and causing the separation of the heaviest paraffin as an amorphous waxy sediment.

As an example of this process, a simple experiment described by Miles W. Quick, of Titusville, Pa., in an unpublished manuscript may be mentioned. A sample of light oil was cooled to a temperature of 25° F. until it was cloudy to the top. When the sample was warmed to between 60° and 70° F., the original temperature, the cloudiness did not disappear. After further heating, which caused all congealation to disappear, the sample was again cooled to 35° F., and the top half was decanted off and labelled “Sample 1.” The part of the original sample remaining in the bottle was called sample 2. When sample 2 was warmed, its appearance was identical with that on sample 1, yet when sample 1 was cooled to a temperature of 35° F. no congealation took place, whereas at this temperature sample 2 was cloudy with amorphous paraffin.

Several interesting deductions may be made from the experiment. In the first place, although Carrl states that oil and gas appear to exist in the rock, not as distinct bodies, but as one substance—gaseous hydrocarbons being incorporated with the oil as gas with water in a bottle of soda water—yet the experiment described above shows that under certain circumstances “stratification” does take place. The free escape of the light hydrocarbon gases, as allowed at most wells, gradually changes the relative composition of the oil remaining

in the rock, until the accompanying refrigerative effect of the gas expansion and vaporisation is sufficient to lower the temperature of the oil in the immediate vicinity of the well by overcoming convection from the surrounding rock. This results in the formation of waxy paraffin sediment, which, combining with water and fine rock sediments, clog the pores of the sand and obstruct the passage of the oil into the well.

This process accounts for the sudden failure of many wells, some situated in unexhausted territory. The drop of a few degrees near a certain critical temperature has more effect on the congelation of the oil in a well than a preceding twenty degree change in temperature. Hence, when the petroleum becomes relatively high in heavy paraffin constituents, or, conversely, low in its percentage of light hydrocarbons, which have been exhausted in the early stages of production, the wax will soon clog the outlets and production will end abruptly. To repeat, this result is brought about both by the free escape of well gases and by the stratifying of the oil, as indicated in the experiment described above.

The decline of gas pressure in the pool through the exhaustion of the lighter hydrocarbons acts in a variety of ways to cause the decline of wells. In the first place the reduction of the specific gravity of the oil remaining in the rock indirectly affects the production, as described in the preceding paragraph. The practice of allowing the free escape of vapours instead of endeavouring to make each cubic foot of gas in expanding perform its quota of work in the expulsion of liquid petroleum, is a direct cause of the decline of flowing wells. It is almost as direct a factor in the decline of pumping wells as the intrastrata gas pressure is the means of keeping up the continuous movement of the fluid toward the well when the well is pumped.

As another indirect effect, may be mentioned the flooding of oil pools by water, owing to the injudicious rapidity with which the gas is drained from the pool. The rapid exhaustion of the gas in a certain part of the field may remove the only influence retarding the encroachment of water, which may, by a flanking movement, cut off a large section of the producing area. Or water may exist in the lower part of the oil sand, being held in check only by the rock pressure of the gas. If each cubic foot of gas were retained to perform its work of expelling petroleum, the pressure would help to retard the water for a considerable period, or until the maximum amount of oil had been recovered. The Hogshooter pool in Oklahoma is an example of a producing gas district that has been ruined by having its gas drained too rapidly. Wells were commonly drawn upon to their utmost capacity; hence, as no pressure restrained the water under high pressure in the lower part of the productive formation it flooded one well after another. Although Oklahoma has a law requiring that 50 per cent. of the open-flow capacity must be retained in the well, little attempt was made to comply with this law. In some pools, such as the Hogshooter, it is believed that not over 15 per cent. of a gas well's capacity should be turned into the pipe line at any time, the remainder being retained in the well to keep back the water.

This comparison is a general one, and disregards all except the main factors of oil production.

The extent and rapidity of the succeeding decline is governed by several factors, which may be classified as follows:—

1. Formation of waxy sediments that obstruct the passage of oil from the sand.
2. Decline of gas pressure in the district; that is, decrease of expulsion force, due to the exhaustion of the lighter or gaseous hydrocarbons.
3. Decrease in quantity of oil draining by gravity down the dip into the area affected by a well.
4. Decrease of the oil supply within the drainage area of a well on account of near-by development or the original limits of the pool.
5. Flooding by non-encroaching salt water under low pressure.
6. Flooding of the productive formation by salt water under high pressure.
7. Flooding by fresh water from the surface or from an overlying water-bearing formation.
8. Drilling of neighbouring wells.
9. Poor management, such as improper casing, unwise rate and time of pumping, and failure to clean.

One of the most important of the factors enumerated is the formation of obstructive waxy sediments in the productive stratum and in the tubing of the well, owing to excessive refrigeration incident to the free expansion of large quantities of gaseous hydrocarbons associated with the crude oil in the rock. That in some fields an early decline and seeming exhaustion is premature, and can be credited to this cause, is evidenced by the fact that when new wells are drilled near older wells that have ceased to produce, the new ones give every indication of unimpaired pressures and vitality. It was a common occurrence in the northern Pennsylvania oilfields to find that the second and third crop of wells in old pools produced large quantities of oil after the territory had been abandoned as exhausted.

Carroll speaks of the producing formation as being a "practically sealed reservoir" so far as an individual pool is concerned. As an example, he mentions the Cashup (Pa.) pool, which was discovered in 1871, three or four years after the Pithole pool—two miles to the south-west—had been practically exhausted. When tapped, the Cashup pool showed all the conditions normal to new territory and an abundance of lively oil, which attested its energy and force in a well flowing over 1,000 barrels per day.

The history of these pools has been duplicated in many places in Butler and Clarion counties, Pa. Further evidence that the shorter life of the more recent development in south-western Pennsylvania and West Virginia is not due to the draining of the oil and gas from the northern fields is the fact that the newer fields show much greater pressures and volumes of gas than the old fields ever did, even when encountered in the same producing sands. To account for these changed conditions one must therefore look to causes other than any underground connection.

♦

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THE ANGLO-MAIKOP CORPORATION, LTD.

IMPORTANT DEVELOPMENTS AT KRIMSKAYA.

On Monday the third ordinary general meeting of the Anglo-Maikop Corporation, Ltd., was held at Winchester House, Old Broad Street, E.C., Mr. Cosmo Nevill Peake (chairman of the company) presiding.

Mr. W. H. W. Lacey (manager and secretary) having read the notice convening the meeting and the auditors' report.

The Chairman, in moving the adoption of the report and balance sheet, said: Your directors are of the opinion that the results shown by the accounts before you are very satisfactory when the state of affairs which has prevailed during the period under review is taken into consideration. The report states that the year has not been a favourable one for business such as ours—namely, financial operations in connection with the oil industry—and it is, therefore, all the more pleasing to us that, while we are, first of all, a financial institution, we have also been able to build up a sound commercial business in Russia. The result of this policy is shown by the accounts under consideration, as in a year which would otherwise have been a bad one, the profits are sufficient to enable the directors to recommend payment of a dividend at the same rate as last year. With regard to the balance sheet, I do not know that any of the items on the liabilities side call for detailed comment, except perhaps the reserve account. It is proposed to set aside this year the same percentage of profits as for the last period—that is 10 per cent.—and thus bring our reserve up to £47,239. 10s. I do not think anyone will question the wisdom of our building up the reserve. Under the item "profit and loss account" in the balance sheet are shown the appropriations against last year's balance, which were approved at the general meeting. To avoid misapprehension, I might mention that the directors only receive a commission when a profit of 10 per cent. on the year's working is earned. Therefore, neither the board nor the managing directors receive any extra remuneration this year.

Our contingent liabilities have been reduced to £9,299. 10s., and of this we have good reason to believe that about one-half will never be called up. This item stood last year at £61,008. 4s. 6d., and the reduction explains to a great extent the increases in share and debenture investments shown on the assets side. These additional investments are nearly all in undertakings which are at present making profits. The policy of the directors has been to spread the interests of the corporation as much as possible, and I think you will agree that this is the right course to pursue. By this means the corporation cannot be seriously affected by unforeseen or unfavourable developments in connection with any of the companies with which they are associated. On the assets side you will note our interest in steamships now amounts to £29,564, as compared with £12,571 last year. Your directors considered that they should take advantage of an opportunity which occurred for enlarging our investment in this direction, and I am pleased to inform you that their action has been fully justified by what has since taken place. All the carrying trade on the River Kuban, from Ekaterinodar to Temriuk, is now in the hands of the company in which the corporation holds so large a proportion of the shares, and while the profits in the past have been very good indeed, there is every prospect of their being further increased. Sundry debtors, £79,827, the greater portion of which has since been liquidated, comprise the sums due at the closing of the accounts from crude oil buyers and from the allied companies which had purchased materials through us. The purchase of materials, as you know, is handled by the corporation on commission, and in this way the allied companies are able to get their supplies at much cheaper rates than would be otherwise the case. The stocks held by the materials department for the allied companies and the crude oil on hand at the making up of the accounts together amounted to £22,473. This sum is really equivalent to cash, and in arriving at the cash position this figure should be added to the balance shown in the financial

statement given in the report. With reference to the item, £177,051, representing share investments at cost, these investments are mostly holdings in the various companies enumerated in the report. In reply to criticisms on the method adopted in valuing our share investments, I wish to say I made a careful personal investigation into this matter and got out an independent valuation of our various holdings, and I am pleased to tell you that, after wiping out altogether any shares which I thought might possibly be considered doubtful and putting the others quoted at the lowest possible prices, the value of our holdings is somewhat in excess of the amount stated in the balance-sheet. Furthermore, as you will see by the accounts, we have a reserve amounting to £47,239.

In turning to the account of profit and loss I might, perhaps, mention that last year's report and accounts covered a period of thirteen months, while those now before you are for approximately twelve months and thirteen days, being made up to June 30th (Russian style). The Russian revenue account shows a gross profit of £21,454, which is more than was made last year, although the period is shorter. Dividends, interest, etc., amount to £21,707, and are, of course, mainly derived from our share and debenture holdings. On the other hand, our general expenses in Russia amounted to £5,307, which shows a considerable reduction on those of last year. The London expenses, in our opinion, are moderate, as an enormous amount of extra work has had to be done on this side in connection with the amalgamations and absorptions carried through by the corporation during the period under review. With regard to the St. Petersburg agency, I am sure you all recognise the necessity of an important organisation like ours having a representative in the Russian capital, to enable us to get through smoothly and expeditiously the many formalities in connection with companies operating in Russia. Turning to the appropriation account, £3,685 has been set aside for depreciation on leasehold lands, buildings, moveable property, etc., and, as I have already mentioned, 10 per cent. of the year's profits is carried to the reserve account. A dividend of 5 per cent., the same as last year, is recommended, and this will leave £19,186. 2s. 11d. to be carried forward, which is about equal to another 5 per cent. With regard to our business generally, such complete information has been given in the report that I think it is hardly necessary for me to go to any extent into further details. I should like, however, to refer briefly to a few of our interests, particularly those which have come into prominence since our last meeting.

The absorption and amalgamation of the various companies which have come under the auspices of the corporation during the period covered by the accounts have involved a very considerable amount of organisation. The result of these developments has been to give the corporation a leading position on the Maikop field. Your directors have carefully watched the course of events on that field during the past summer, and they consider that the facts enumerated in the report regarding the extension of the upper oil source in the Shirvansky region, and the developments in the heavy oil areas should in themselves be quite sufficient to remove the false impression which has gained such firm hold in some quarters—namely, that no good can come out of Maikop. On the question of the existence of oil in payable quantities in the lower horizons, I would like to say that, to my mind, a mistaken impression has gained ground in connection with the well on Plot 108 of the Maikop Deep Drilling Company. Even if the casing in this well had never become damaged, the fact that the final column is only 5 in. in diameter is sufficient to prevent this well being considered other than an exploratory one. It has, however, clearly provided us with the fact that there is oil in Maikop at a depth of over 2,000 ft., and the question of most importance to the corporation now is to find the direction in which that oil source extends. As explained in the report, an arrangement was entered into by several of our

companies to drill a well under the corporation's control on Plot 120, which adjoins Plot 108, and good progress is being made with the work.

As regards Krinskaya, I do not think the importance of the results already attained on that field has been realised in England, though I can assure you that this is not the case in Russia. There our developments are being followed with the keenest interest, and, as a matter of fact, important Russian groups well acquainted with the oil business have already acquired large areas in the district since we struck oil there. The results of the recent exploration work have exceeded all expectations. When work was first commenced it was considered that there were possibly two oil sources on the field, instead of which up to the present four distinct strata have been met with, three of which are giving a payable production. The deepest horizon so far discovered is the most valuable, and No. 1 Well of the Levanovskoe Company is the only one which as yet has gone deep enough to tap it. As explained in the report, this well came in a fountain in the month of June last, but, unfortunately, the pressure was so great that it damaged the casing at the bottom of the well. Thicker casing has been ordered, and is now, I believe, on its way to the field. I may point out that the wells now in production belonging to the Midland and Levanovskoe Companies were intended, in the first instance, for exploration, and, therefore, were of small diameter. The wells now being drilled by these companies to exploit the proved sources are of much larger diameter, and six of these are expected to come into production during the next few months. The striking of light oil in Well No. 1 of the Levanovskoe Company gives an entirely new complexion to the Krinskaya field, although even without that the sources previously proved would have been sufficient to ensure the commercial success of the concerns operating there. Apart from the effect these developments have on the prospects of the operating companies at Krinskaya, in which the corporation is so largely interested, you will, I am sure, realise how immensely important they are to the corporation, in view of its own holding of no less than 810 acres in the immediate vicinity. An energetic drilling programme on this new area has also been commenced. To sum up, on the plots belonging to the Midland, the Levanovskoe, and the Anglo-Maikop Corporation, there are at present over twenty wells being drilled or projected. This extensive programme indicates the opinion of your directors regarding the potentialities of this field. With regard to the corporation's interest in the refining business, quite apart from the success we have already achieved, there are prospects of even better results. It must be borne in mind that this enterprise has created an independent market for crude oil which might have been rendered very difficult in the absence of a local means of refining. You will have seen from the report that we have extended our Roumanian interests, and I am happy to tell you that both these companies are making good profits. I now propose: "That the balance sheet and profit and loss account for the period ended July 13th, 1913, as submitted to this meeting, be received and adopted," and I will ask Mr. Tweedy to second the resolution.

Mr. George Tweedy (general managing director): Gentlemen, at the last meeting, about a year ago, I gave you a short history of Maikop, and showed by comparison with other successful fields that Maikop for the first three years' work had produced more oil than any other oilfield in the world. These remarks apply just as forcibly if the fourth year is included. At that meeting I also gave you some idea of the common difficulties in oil winning, and emphasised the exceptional troubles with which we were then contending; but, in spite of all, I declared as my conviction that "Maikop is an oilfield, and that it has all the potentialities of a great oilfield." After my recent prolonged visit I have no hesitation in repeating the same statement to-day, and I would only add that I consider the position is now sounder than it has ever been. At the recent annual meeting of the Maikop Victory, I explained the general position and prospects of the field, and as most of you have probably seen the report I will not trouble you by going over the same ground again. Reprints are at the disposal of anyone who may not have seen the report. One of the greatest mistakes I know of in connection with the oil industry is that of impatience. However rich a new oilfield may be, it requires time to get at the oil, time to secure good men, time to establish means of transport, and time to ascertain the real value of your product. I will give

you an example, taken from a less uncertain section of the business than the oil-winning—the refining department. We secured the best possible technical assistance, and yet during the first year we were unable to extract more than 12 per cent. of benzine (petrol), whereas after three years of experiments we have more than doubled the percentage of that product, which is, of course, the most valuable. You have an example of a similar experience mentioned at the Victory meeting, with regard to the use of gas from the wells instead of expensive liquid fuel. This is quite a recent development, also resulting from prolonged experiments, which has already effected a saving to our allied companies at the rate of no less than £25,000 a year. It has been suggested that the fact of the corporation having interested itself in business other than on the Maikop oilfield is evidence of their want of confidence in Maikop. This is a fallacy. The fact is, owing to our connection with Maikop other businesses were proposed to us which gave promise of good results. These enterprises, I may mention, were mostly going concerns already earning profits, and, therefore, could be developed much more quickly than a new undertaking. That they have all turned out very satisfactory does not in any way condemn Maikop, where, as I have already explained, we had to start at the beginning. Personally, I am still of the opinion, as are my co-directors, that our Maikop interests remain the greatest assets of the corporation. Nevertheless, whilst, as already explained to you, we are developing important oil interests in Roumania and commercial enterprises in Russia, apart from the oilfield, our cash and assets, independent of the success of the Maikop oilfield, amount to-day to no less a sum than nearly £300,000. If our interests in Krinskaya are included on the basis of prices offered for unexplored land there, our assets would then amount to about £500,000—I repeat, independent of the success of Maikop. I have much pleasure in seconding the adoption of the report and accounts.

Mr. George Tweedy, replying to a question, said that the production of oil had fallen off in the first place because of the weather, and subsequently their efforts were directed towards determining the extent of the area of the upper oil sources. Many of the wells which he spoke of twelve months ago as being in the course of drilling by various companies were practically exploratory wells, and many of them were successful. The most important was that of the Maikop Premier Syndicate, which had struck oil, the output from the first producer being something like 6,000 poods per week, which was a very good production. From the second producing well they were getting even more than 6,000 poods a week—he believed it was nearly 9,000 poods. There was a third well which should have been into the oil six weeks ago, but owing to an accident to the casing the work had been delayed.

Mr. Holiday said that if the Maikop field was to be a success—and he believed it would be—Mr. Tweedy was the only man who could make it a success. No one worked harder in its interests than he did.

The resolution was carried unanimously.

The Chairman moved the declaration of the dividend of 5 per cent. for the year.

Mr. F. Moore seconded the resolution, which was carried unanimously.

On the motion of the Chairman, seconded by the Hon. Frederic W. Auson, the appointment of Mr. Alfred Hicks and Colonel R. H. Rawson, M.P., as directors, was confirmed, and on the motion of Mr. Tweedy, the chairman was re-elected a director.

Messrs. Harwood, Banner & Son were re-appointed auditors, and the proceedings terminated with a vote of thanks to the chairman, Mr. Tweedy, and the other directors.

The Astra-Romana.—The average daily production of this company during the last week amounted to 1,143 tons, of which 880 tons were obtained at Stavropoleos, 130 tons at Bana, 40 tons at Campina, 89 tons at Filipeshti and the remainder at Bacoi and Glodeni.

Italian Navy and Roumanian Petroleum.—The Italian Navy, which has already previously ordered considerable quantities of residuals from Roumania, is now in negotiation for the purpose of purchasing still larger quantities of this product. For this purpose a delegate of the Italian Navy is at present at Bucarest carrying on negotiations.

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & GEE, 61, St. Mary Axe, E.C.
December 12th, 1913.

With the exception of the Russian which is a $\frac{1}{4}$ d. down, there are no alterations in the prices of Refined Petroleum, which are as follows:—Roumanian, 8d.; Russian, 8 $\frac{1}{2}$ d.; Galician, 8 $\frac{1}{4}$ d.; American, 8 $\frac{1}{2}$ d.; American Water White, 9 $\frac{1}{2}$ d.

LUBRICATING OILS

are unchanged as under:—

No. 1 Russian, £12. 2s. 6d.
No. 2 Russian, £10. 17s. 6d.
American pale, from £9. 12s. 6d.
American dark, from £11. 2s. 6d.
American filtered cylinder, from £13. 2s. 6d.

FUEL OIL

The price is 70s. per ton, in bulk, ex wharf.

GREASE-MAKING OIL

is quoted 80s. per ton, in bulk, ex wharf.

MOTOR SPIRIT

The retail price in London for the best quality is 1s. 9d. per gallon and for the second quality 1s. 7d. per gallon.

TURPENTINE.

American Turpentine is quoted, for spot, 32s.; January April, 32s. 7 $\frac{1}{2}$ d.; May/August, 33s. 7 $\frac{1}{2}$ d.

LIVERPOOL.

December 12th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8 $\frac{3}{4}$ d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well.

INDIA.

BOMBAY, November 15th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
" Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, December 11th.

Refined, in cases, is quoted at 11.25; Standard White, 8.75; Credit balances, 2.50.

PHILADELPHIA, December 11th.

Standard White is quoted at 8.75.

GERMANY.

HAMBURG, December 9th.

The petroleum prices remain unchanged. The demand for kerosene begins to be lively, that for benzine decreasing. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, December 9th.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 41–41 $\frac{1}{2}$ copecs per pood spot. Kerosene, 52–53 copecs. Residuals, 40–40 $\frac{1}{2}$ copecs.

ROUMANIA. December 9th.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Bushtenari	Francs.
" " " " " " " "	Moreni	7.00–8.00
" " " " " " " "	Tzintea	5.50–6.25
" " " " " " " "	Policiori	5.00
" " " " " " " "	Bana	9.50–10.80
Paraffin	...	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	26.00–26.50
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	18.00–18.50
Residuals, f.o.b. Constanza	...	7.00–7.50
Gas Oil	...	8.00

AUSTRIA. December 9th.

Crude oil is quoted 8.58 kronen spot. Kerosene, 29 $\frac{1}{2}$ –30 kronen at Oderberg. Benzine, 690/700, 45 kronen; 700/710, 43 kronen, at Oderberg. Gas oil, 7.50 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, London, E.C., report under date December 11th as follows:—

The Welsh railway strike, which, although of short duration, was sufficient to disorganise traffic and cause much loss and inconvenience, has been settled. The terms were officially announced on the 6th inst. The two engine drivers on whose behalf the men struck are not to be re-employed. The strikers have expressed their regret at having taken such action, and given an assurance that they will not take similar action in future, and have further agreed to contribute a small sum per man to the Swindon Victoria Hospital. No guaranteed week's wages to be paid to the men during the period of the strike. Work was resumed on Monday last. There is not much change in prices, which here and there are a shade easier as under:—

1c 18 $\frac{3}{4}$ × 14	124 sheets 110 lbs.	13/3 to 13/4 $\frac{1}{2}$ per box.
1c 20 × 10	225 " 156 "	18/7 $\frac{1}{2}$ " 18/9 "

F.o.b. Swansea. Tin lining and iron hooping extra.

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Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

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FOR THE WEEK ENDED DECEMBER 8TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP-TION.	NO. OF GALS.	PORT WHENCE.
Dec. LONDON—				
2	A. Duckham & Co. ...	Lub.	1,000	Antwerp
2	A. E. Smith ...	"	480	Marseilles
2	Page, Son & East ...	"	400	Antwerp
2	Port Authority ...	"	1,000	New York
2	Grindley & Co. ...	"	4,000	"
2	J. Thompson... ..	"	4,430	Baltimore
2	Anglo-American Oil Co. ...	"	10,000	New York
2	Asiatic Petroleum Co. ...	Lamp	70	P. Samboe
2	J. Thompson... ..	Lub. Gr.	2,820	New York
3	Vacuum Oil Co. ...	Lub.	12,570	"
3	Union Lighterage Co. ...	"	16,000	"
3	Mercantile Lighterage Co. ...	"	8,240	"
3	Port Authority ...	"	7,690	Hamburg
3	E. G. Boize ...	Lub. Gr.	410	"
3	Leach & Co. ...	Lub.	240	Ghent
3	Asiatic Petroleum Co. ...	Benzine	5,000	Rotterdam
4	Leach & Co. ...	Lub.	240	Ghent
4	A. Duckham & Co. ...	"	800	Antwerp
4	Produce Brokers Co. ...	"	6,000	N. Orleans
4	Motor Owners' Petrol Combine	Benzine	180,000	Hamburg
4	Motor Petrol Association ...	"	3,940	Brussels
5	Anglo-American Oil Co. ...	Fuel	728,780	New York
5	Lubricating & Fuel Oils Co. ...	Lub.	5,330	Baltimore
5	"	"	20,500	Philadel.
5	E. G. Boize ...	Lub. Oil and Gr.	560	Hamburg
5	L. Freeland ..	Lub. Gr.	1,210	Antwerp
6	Port Authority ...	Lub.	1,050	New York
6	Mercantile Lighterage Co....	"	2,760	"
6	Bramwell, Fern & Co. ...	"	6,030	Philadel.
8	E. G. Boize ...	Lub. Gr.	470	Hamburg
8	British Petroleum Co. ...	Fuel	325,000	Kustendje
8	British and Foreign Wharf	Lub.	560	Antwerp
8	Leach & Co. ...	"	80	Ghent
LIVERPOOL—				
2	F. Guest ...	Lub.	3,190	Baltimore
2	A. Hopps & Sons ...	M. Colza	3,800	"
2	"	Lub.	15,480	"
2	"	"	6,600	"
2	Gandy Belt Co. ...	Lub. Gr.	80	Antwerp
2	Vacuum Oil Co. ...	Lub.	4,210	New York
2	Huxley & Co. ...	"	40	Hamburg
3	Burnaby & Chantrell ...	Lub. Gr.	8,150	Baltimore
3	J. T. Fletcher & Co. ...	"	60	Antwerp
3	W. Gibson & Sons ...	Lamp	2,050	Boston
3	Wilkinson Bros. ...	Lub.	500	Ghent
4	F. Leyland & Co. ...	"	3,800	N. Orleans
4	Meade-King, Robinson & Co. ...	Lub. Oil and Gr.	5,200	Baltimore
5	F. Guest ...	Lub.	2,600	"
5	"	"	400	Hamburg
5	Crew, Levick & Co. ...	"	5,810	Stettin
5	Pickford's ...	Lub. Oil and Paste	190	Hamburg
5	Crew, Levick & Co. ...	M. Colza	6,820	Philadel.
5	"	Lub.	7,350	"
5	American Line ...	Lub. Oil and Gr.	2,050	"
5	Meade-King, Robinson & Co. ...	Lub.	74,440	"
5	W. B. Dick & Co. ...	"	10,000	"
5	D. Owen & Son ...	"	2,910	"
5	Worthington & Boler ...	"	5,680	"
5	J. Light & Son ...	"	3,000	N. Orleans
5	F. Guest ...	"	3,000	"
6	Anglo-American Oil Co. ...	"	17,200	Philadel.
6	Bramwell, Fern & Co. ...	"	3,140	"
6	Bowring Petroleum Co. ...	"	1,020	"
8	Bennett's Haulage, etc., Co. ...	"	4,460	"
8	Vacuum Oil Co. ...	Lub. Oil and Gr.	15,040	New York
8	White Star Line ...	Lub.	1,000	"
8	Swan & Finch Co. ...	"	2,000	"
8	Cunard Steamship Co. ...	"	1,800	"
3	Huxley & Co. ...	"	200	Ghent
BOSTON—				
2	W. F. Beaumont ...	Lub. Oil and Gr.	440	Hamburg
6	"	Lub.	500	"
BRISTOL—				
10/11	Anglo-American Oil Co. ...	Gas	36,720	Sabine
2	Ford & Canning ...	Lub.	1,350	New York
3	Pickford's ...	"	650	Antwerp

DATE.	PORT AND IMPORTERS.	DESCRIP-TION.	NO. OF GALS.	PORT WHENCE.
Dec. BRISTOL—				
4	H. Pritchard & Co. ...	Lub.	1,050	Antwerp
4	J. & R. Bush ...	"	9,960	New York
8	Anglo-American Oil Co. ...	Fuel	251,720	Baton Rouge
CARDIFF—				
3	Furness, Withy & Co ...	Lub. Gr.	80	Antwerp
3	Holman, Ltd. ...	"	60	"
3	Frazer & Co. ...	Gasoline	270	Rotterdam
5	Bristol Steam Navig. Co. ...	Lub. Gr.	220	Hamburg
GRIMSBY—				
2	J. Sutcliffe & Son ...	Lub.	70	Rotterdam
2	"	"	700	Antwerp
5	"	"	860	"
HARWICH—				
2	Great Eastern Railway ...	"	340	"
3	"	Lub. Gr. Bricks	60	"
4	"	Lub.	120	"
8	"	"	520	"
HULL—				
2	T. Wilson, Sons & Co. ...	"	32,800	New York
4	W. Gilyott & Co. ...	"	28,480	"
4	Wilson's & N. E. Railway ...	"	880	Hamburg
4	"	"	440	Antwerp
5	T. Wilson, Sons & Co. ...	"	2,400	Stettin
8	Wilson's & N. E. Railway ...	"	240	Ghent
8	"	"	1,000	Antwerp
MANCHESTER—				
3	T. Wilson, Sons & Co. ...	"	6,530	Philadel.
3	"	"	720	Riga
3	W. Hodgson & Co. ...	"	1,280	"
3	J. T. Fletcher & Co. ...	Lub. Oil and Gr.	90	Antwerp
5	Bramwell Fern & Co. ...	Lub.	19,720	Philadel.
6	Meade-King, Robinson & Co. ...	"	74,760	"
6	"	Lamp	10,000	"
6	D. Currie & Co. ...	Lub. Oil and Gr.	1,920	Hamburg
8	Pickford's ...	Lub.	410	"
8	J. T. Fletcher & Co. ...	"	900	Ghent
NEWCASTLE—				
4	P. H. Matthiessen & Co. ...	"	50	Bergen
5	"	"	220	"
5	Tyne-Tees Steamship Co. ...	"	2,920	Hamburg
GLASGOW—				
2	MacLay & MacIntyre Co. ...	"	2,830	N. Orleans
2	Clyde Shipping Co. ...	"	200	Antwerp
8	Anchor Line ...	"	10,080	New York
GRANGEMOUTH—				
2	W. G. Yooll & Co. ...	Lamp	2,000	Hamburg
LEITH—				
1	G. Gibson & Co. ...	Lub.	80	Antwerp
2	Jas. Currie & Co. ...	"	60	Hamburg
2	Jas. Cormack & Co. ...	"	480	Riga
4	Jas. Currie & Co. ...	"	2,400	Hamburg
5	G. Gibson & Co. ...	"	1,080	Antwerp
8	"	"	2,160	"
8	Jas. Currie & Co. ...	"	600	Hamburg
8	W. G. Yooll & Co. ...	Lamp	4,360	"
8	"	"	390	"
8	Jas. Currie & Co. ...	Lub.	600	"
BELFAST—				
6	J. C. Pinkerton & Co. ...	Lub. Oil and Gr.	1,410	"
Deduct—			2,131,110	
LONDON—				
11/11	Anglo-American Oil Co. ...	Gas	3,500	Philadel.
14/11	"	Benzine	256,010	Kustendje
MANCHESTER—				
14/11	British Petroleum Co. ...	Gas	80,510	Port Arthur
18/11	J. T. Fletcher & Co. ...	Lub.	400	Antwerp
			1,790,690	

From Lloyd's

DECEMBER 11TH, 1913.

THE "REVIEW" SHIPPING LIST.

The following abbreviations are used in this table:—L. Left. Pd. Passed. Arr. Arrived. Sp. Spoken. T. Trading. Cl. Cleared
The Anglo-American Co.'s vessels marked thus (*). The Anglo-Saxon Co.'s tankers thus (Δ). Messrs. Lane & Macandrew's thus (□)

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
ADORNA	Antofagasta.	San Francisco	Arr. Dec. 8	DERBENT	Manchester...	Batoum	Pd. Gibraltar Dec. 10
AMERICAN	Antwerp.....	New York ...	Pd. Lizard Dec. 10	DESALBA	Tyne	Port Harford (Calif.)	40 miles S. W. of Land's End Dec. 3
APPALACHEE*	New York ...	London	Arr. Dec. 10	DEUTSCHLAND	Gothenburg & Tyne	Baton Rouge	Pd. Dunnet Hd. Nov. 26
APSCHERON	Batoum	Antwerp.....	Arr. Nov. 20. In port Dec. 9	DIAMANT	Tyne	Philadelphia.	L. Nov. 26
ARAL	Kustendje ...	Blexen	Pd. Dardanelles Dec. 7	DONAX	Singapore ...	Gibraltar ...	L. Nov. 28
ARAS	Lisbon.....	Sabine.....	L. Norfolk, Va., Dec. 1	EBURNA.....	Tyne	—	Pd. Perim Dec. 9
ARCA	Rangoon.....	Gibraltar ...	L. Port Said Dec. 7	EDWARD L. DOHENEY	New York ...	Tampico.....	Pd. San Key Nov. 21
ARTHUR VON GWINNER	Bergen	Bremerhaven	Arr. Nov. 30	EL LOBO	Callao	Lobitos	L. Dec. 7
ASHTABULA*	San Francisco	Antofagasta	L. Nov. 28	EL SEGUNDO	Seattle	San Francisco	L. Oct. 21
ASTRAKHAN	Tyne	Constanti-nople	Pd. Gibraltar Dec. 5	EL TORO	Hull	Tyne	Arr. Nov. 21. In port Dec. 9
AUREOLE	Port Arthur..	Antwerp & London	L. Norfolk, Va., Dec. 1	ELAX Δ	Barrow	New Orleans	Off Pt. Lynas Dec. 4
AZOV	San Francisco	Talara Bay...	L. Nov. 12	ELISE MARIE	Dantzig & Tyne	New York ...	Arr. Dec. 8
BAKU STANDARD...	Hamburg ...	Kustendje ...	Pd. Gibraltar Dec. 6	EMANUEL NOBEL...	Hamburg ...	Batoum	Arr. Dec. 9
BALAKANI □	Manchester ..	Port Reading	Arr. Dec. 9	ENERGIE	Tuxpan	Baton Rouge	Arr. New Orleans Dec. 1
BATOUM	Port Arthur	—	L. Dec. 9	ERIVAN	Batoum	Genoa	Pd. Dardanelles Dec. 5
BAYONNE	Kustendje ...	Venice	Arr. Dec. 3	ESTURIA	Singapore ...	Sydney	L. Melbourne Dec. 8
BEACON LIGHT	Port Arthur, Texas	Devonport ...	L. Norfolk, Va., Nov. 28	EUPION	Alloa	Sunderland	Arr. Nov. 29
BLOOMFIELD	New York ...	Tuxpan	Arr. Dec. 6	EUPLECTELA Δ	Alexandria...	—	Arr. Port Said Dec. 1
BORJOM.....	Kustendje ...	—	Pd. Dardanelles Dec. 9	EXCELSIOR	Tyne	New York ...	Pd. Dunnet Hd. Nov. 25
BRILLIANT (Br. Bq.)	Philadelphia.	Kobe	Arr. Aug. 10. In port Oct. 29 for United States	F. A. TAMPLIN	London	P. Mexico ...	Pd. Lizard Dec. 6
BRILLIANT	Dantzig	Tyne & Sabine	L. Dec. 9	FRANCE MARIE.....	Tampico.....	Port Arthur	L. Nov. 10
BRITISH SUN	Hamburg ...	Batoum	Pd. Dardanelles Dec. 7	(Belgian Ship)			
BROADMAYNE	New York ...	Calais	Pd. Dungeness Dec. 10	FUMI MARU	Tarakan	Rangoon.....	Arr. Oct. 21
BUFFALO	San Francisco	Hong Kong..	L. Nov. 24	GEESTEMUNDE	New York ...	Tampico.....	L. Nov. 21
BULLMOUTH Δ	Yokohama..	Takekoya....	L. Dec. 6	GENESSE*	New Orleans & Norfolk, Va.	Manchester ..	Arr. Dec. 10
BULYSSES	Bizerta	Colombo	Pd. Perim Dec. 8	GEORGIAN PRINCE	Spezia	—	Arr. Gibraltar Dec. 11
BURGERMEISTER PETERSEN	New York ...	Stockholm ...	L. Dec. 6	GOLDMOUTH Δ	Balek Pappan	Gibraltar ...	Arr. Colombo Dec. 8
BUYO MARU	Singapore ...	Calcutta	L. Dec. 8	H. C. HENRY.....	Los Angeles.	Balek Pappan	Arr. Nov. 21
C. A. CANTFIELD* ..	Sabine	Tampico.....	L. Dec. 1	HAGEN	Kiel.....	Philadelphia.	Arr. New York Dec. 10
CALCUTTA (Br. Bq.)..	San Francisco	Yokohama...	L. Nov. 10	HAINAUT (Barge) ...	—	—	T. between Tampico and Aransas Pass
CAMILLO	Port Arthur.	Portsmouth	L. Norfolk, Va., Dec. 8	HARPORT	San Francisco	Tocopilla ...	L. Nov. 28
CAPTAIN A. F. LUCAS	—	—	T. United States, Pacific	HARRY	Baltimore ...	Tampa	Arr. Nov. 27
CARDIUM Δ	Singapore ...	Gibraltar ...	Arr. Port Said Dec. 9	LUCKENBACH			
CARPATHIAN □	Tyne	Port Arthur.	Pd. Prawle Pt. Dec. 6	HARRY WADSWORTH*	Galveston ...	Vera Cruz ...	L. Tampico Nov. 11
CAUCASIAN □	Philadelphia.	Galveston ...	Arr. Dec. 9	HELIOS	Sabine.....	Hamburg ...	Arr. Nov. 19. In port Dec. 9
CHARLES E. HARWOOD	Sabine	Tampico.....	L. Nov. 18	HERA	Kustendje ...	Brunshausen.	Pd. Dardanelles Dec. 8
CHARLOIS.....	Amsterdam ..	Sabine.....	Arr. Dec. 3	HERBERT G. WYLIE	New Orleans	Tampico.....	Cl. Nov. 21
CHATHAM.....	New Orleans.	Tampico.....	Pd. Port Eads Nov. 27	HERMIONE	Port Arthur.	Portland, Dor.	Arr. Dec. 11
CHESTER	Antwerp.....	Port Arthur, Texas	Arr. Norfolk, Va., Dec. 4	HESPERUS	Pisagua	San Francisco	Arr. Dec. 8
CHEYENNE	Barrow	Novorossisk..	Pd. Gibraltar Dec. 8	HORLEY	New Orleans	Tampico.....	L. Port Eads Nov. 22
CHIRA (Tug)	—	—	Coasting Peru and Ecuador	HOTHAM NEWTON	Batoum	Dunkirk.....	Pd. Dardanelles Dec. 8
CIRCASSIAN PRINCE	—	—	T. W.C. South America	HYRCANIA	Tyne	Port Arthur.	Pd. Beachy Hd. Dec. 3
CITY OF EVERETT	Port Arthur, Texas	New York ...	Arr. Nov. 21. In port Nov. 26	ILLINOIS	New Orleans.	Antwerp.....	Arr. Dec. 10
CLAM Δ	Kustendje ...	Amsterdam	Pd. Dardanelles Dec. 6	IMPEROYAL	—	—	T. River St. Lawrence
CLEARFIELD	Tuxpan	Galveston ...	Arr. Dec. 6	IMPOCO	Kustendje ...	Savona	Arr. Dec. 5
COMANCHEE	Belfast	Philadelphia.	Arr. Dec. 9	IOANNIS COUTZIS...	—	—	On Govt. Service
CONCH Δ	Suez	Abadan	Arr. Nov. 27	IROQUOIS (Towing Barge Navahoe)	New York ...	London	Arr. Dec. 10
CONRAD MOHR	Immingham	New York ...	L. Dec. 1	J. B. AUG. KESSLER	Biz rta	Rangoon.....	Arr. Dec. 9
CORDELIA	Antofagasta	San Francisco	Arr. Nov. 27	J. OSWALD BOYD...	Clyde & Manchester	Tampico.....	Pd. Eastham Nov. 21
COWRIE Δ	Singapore ...	Seattle & San Francisco	L. Karatsu Nov. 27	JULES HENRY	Rotterdam...	Ymuiden ...	Arr. Nov. 22. In port Dec. 9
CURRIER	New Orleans	Matanzas ...	Pd. Mississippi Bar Nov. 30	JUNO	Palembang ...	Miri.....	L. Nov. 16
CYMBELINE	New York ...	Rouen.....	L. Dec. 7	KANAKUK	Balek Pappan	Kurrachee ...	Arr. ab't Dec. 10
CZAR NICOLAI II....	Batoum	Hamburg ...	Arr. Dec. 6	KASBEK.....	Antwerp.....	Philadelphia.	Pd. Lizard Dec. 6
DAGHESTAN	Messina	Batoum	L. Dec. 9	KIOWA	Baton Rouge	Rotterdam ...	L. Dec. 2
DANUBIAN □	Port Arthur	London	L. Newport News Dec. 6	KIO MARU	Valparaiso ..	Callao	Arr. Nov. 14
DAYLIGHT (Br. Bq.)	Hiogo	Hong Kong..	Arr. Oct. 26 for New York	KOMETA	Kustendje ...	—	Pd. Dardanelles Dec. 2
DELAWARE*	Novorossisk..	—	Pd. Dardanelles Dec. 9	KREMLIN	Rouen	Kustendje ...	Arr. Dec. 7
DELPHIN	—	—	Launched Rostock Oct. 16	KURA	Hamburg ...	New York ...	Arr. Dec. 2
				LA CAMPINE	Antwerp.....	New York ...	Arr. Dec. 10
				LA FLANDRE	Antwerp.....	New York ...	Pd. Scilly Dec. 10

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
LA HESBAYE	Sabine.....	Antwerp ..	Arr. Dec. 9	ROMANY Δ	Rotterdam ..	Batoum ...	L. Malta Dec. 6
LACKAWANNA*	New York ..	Manchester..	Cl. Dec. 1	ROSALIND	London	Port Arthur..	Pd. Lizard Nov. 30
LE COQ □	Rouen	Tyne	Arr. Nov. 26. In port Dec. 9	ROTTERDAM	Rotterdam ..	Philadelphia.	Pd. Prawle Pt. Nov. 27
LOKI	Philadelphia.	Hamburg ...	L. Dec. 3	ROUMANIAN □	Kustendje & Avonmouth	Manchester.	Arr. Liverpool Dec. 10
LUCELLUM	Portland, Dor.	Persian Gulf	Pd. Aden Dec. 1	ROUMANIAN PRINCE	Selzaete	Jacksonville.	Pd. Dover Dec. 1
LUCERNA	Cardiff	Kustendje ...	L. Malta Dec. 10	RUSSIAN PRINCE ...	Tampico	New York ...	Arr. Dec. 3
LUCIGEN	Kustendje ...	Portsmouth..	Pd. Sagres Dec. 8	SALAHADJI Δ	Singapore ...	Tarakan	L. Dec. 8
LUCILINE □	Rouen.....	Kustendje ...	Pd. Gibraltar Dec. 9	SAMOSSET	Yokohama ...	San Francisco	L. Dec. 21
LUMEN	Tyne	Philadelphia.	Arr. New York Dec. 10	SAN ANTONIO.....	—	—	T. Mexican Coast
LUTETIAN □	Rouen.....	New York ...	P. Lizard Dec. 7	SAN BERNARDO ...	—	—	T. Mexican Coast
LUX □	Bordeaux ...	Tyne	Arr. Nov. 25. In port Dec. 9	SAN CRISTOBAL ...	—	—	T. Mexican Coast
LUZ BLANCA	Astoria	San Francisco	Arr. Nov. 20 for Peru	SAN DUNSTANO.....	Puerto Mexico	London	L. Norfolk, Va., Dec. 6
MAKKAWEI	Batoum	Horli	L. Nov. 17	SAN EDUARDO	Puerto Mexico	Batoum	Pd. Dardanelles Dec. 8
MANNHEIM	Philadelphia.	Rotterdam ...	Pd. Delaware B'water Nov. 29	SAN FRATERNO.....	New York ...	Sharpness ...	L. Nov. 30
MARGARETHA	Cette	Philadelphia.	Pd. Gibraltar Dec. 8	SAN GREGORIO	New York ...	Rotterdam...	Pd. Lizard Dec. 10
MASCONOMO	Karatsu	San Francisco	L. Nov. 17	SAN RICARDO	Batoum & Constantinople	Borneo	Pd. Perim Dec. 7
MASSASOIT	Kuchinotzu ..	Calcutta	Arr. ab't Nov. 21	SAN SILVESTRE.....	Sabine.....	Avonmouth..	Arr. Dec. 10
METEOR	Batoum	Vladivostock.	Arr. Dec. 3	SAN TIRSO	Batoum	Tuxpan	L. Dec. 7
MEXICAN PRINCE..	Hankow	Palembang ...	Arr. Dec. 3	SAN URBANO	Tyne	Puerto Mexico	Pd. Sand Key Dec. 9
MIJDRECHT	Braila.....	Hamburg ...	Arr. Malta Dec. 10	SANTA MARIA	Hilo	San Francisco	At Hilo Dec. 3
MINA BREA.....	Callao	Talara & San Francisco	L. Nov. 25	SANTA RITA	Vancouver...	San Francisco	Arr. Dec. 3
MIRA	New York ...	Italy	L. Dec. 1	SATANTA	Hong Kong ..	Calcutta	Arr. ab't Nov. 26
MITRA	Port Arthur.	Messina	L. Newport News Dec. 10	SAXOLEINE	Tyne	New York ...	Pd. Dunnet Hd. Dec. 11
MOHAWK*	Campana ...	Tampico	L. Nov. 15	SEBASTIAN	—	—	Launched Dundee April 24, since complet'g
MOHICAN	Copenhagen & Tyne	New York ...	Arr. Nov. 25	SEQUOYA	San Francisco	Amoy	Arr. ab't Nov. 13
MUREX Δ	Soesoe	Singapore ...	Arr. Dec. 7	SERVIAN □	Manchester...	Port Arthur..	Pd. Sand Key Dec. 10
NARRAGANSETT ...	Liverpool ...	New York ...	130 miles S.W. Brow Hd. Dec. 9	SHABONEE	New York ...	Port Said ...	Arr. Dec. 7
NATICA	Rotterdam ...	Malta	Off the Wight Dec. 7	SIOUX.....	Sabine & New Orleans	Buenos Aires	L. Port Eads Nov. 17
NEKO	Leith	S. Shetlands.	L. Monte Video Oct. 17	SILVIA	Port Arthur.	Galveston ...	Arr. Dec. 5
NELSON	San Juan ...	New Orleans.	Pd. Tortugas Nov. 28	SIRIUS (Ger.) ...	Copenhagen.	Hamburg ...	Arr. Dec. 2. In port Dec. 9
NEW YORK*	Rotterdam ...	New York ...	Pd. Scilly Dec. 7	SOCONY	Port Arthur	New York ...	L. Nov. 21
NIAGARA	San Francisco	Chinkiang ...	L. Nov. 19	SOYO MARU.....	Thames Haven	Persian Gulf	Pd. Gibraltar Dec. 10
NORMAN BRIDGE...	Sabine.....	Philadelphia.	Arr. Dec. 9	SPLENDOR	New York ...	Algiers	L. Dec. 2
OBERON.....	Port San Luis	Vancouver...	Arr. Nov. 28	STAG	Liverpool & Milford	Antilla	Pd. St. Anne's Hd. Dec. 7
OCEAN	New York ...	Amsterdam .	L. Dec. 1	STANDARD	London	Port Arthur & Kustendje	Off the Wight Dec. 10
OILFIELD	Savona	Philadelphia.	Pd. Tarifa Nov. 30	STROMBUS Δ	London	Port Arthur..	Pd. Prawle Pt. Nov. 27
OKLAHOMA	Philadelphia.	Port Arthur..	L. Nov. 21	SULTAN VAN LANGKAT Δ	Suez	Bombay	L. Dec. 8
ONEKA	Narvik	Philadelphia.	Arr. Nov. 23	SUNLIGHT (Br. Bq.)	Macoris ...	Liverpool ..	L. Nov. 28
ORIFLAMME □	New York & La Pallice	Pt. de Bouc ..	Pd. Gibraltar Dec. 10	SURAM	Hamburg ...	Philadelphia.	Pd. Lizard Nov. 24
OSAGE	Rotterdam ...	New York ...	Pd. Scilly Dec. 2	SUWANEE*	Philadelphia.	Sunderland..	Pd. Scilly Dec. 11
OTTAWA*	Maryport & Liverpool	New Orleans	Arr. S. Michaels Dec. 2	SVIET	Odessa.....	—	Pd. Dardanelles Dec. 2
OURAL	Rouen	Kustendje ...	Arr. Dec. 6	TECUMSOH	New York ...	Tampico	L. Nov. 22
PALEMBANG	Haiphong ...	Balek Pappan	L. Nov. 27	TELENE Δ	Singapore ...	Gibraltar ...	L. Port Said Dec. 9
PATELLA Δ	Thames Haven & Bizerta	—	Arr. Colombo ab't Dec. 10	TEREK	Avonmouth..	Limerick ...	Arr. Dec. 8
PAUL PAIX.....	Calais	Hull	Arr. Dec. 7	TEXAS	New York ...	Puerto Mexico	L. Nov. 16
PAULA	Swinemunde.	Hamburg ...	Arr. Nov. 24. In port Dec. 9	TIFLIS	London.....	Tyne	Arr. Nov. 30. In port Dec. 9
PAWNEE	Baton Rouge	Swinemunde.	Pd. Dungeness Dec. 9	TONAWANDA*..	Tees & Sunderland	New York ...	Pd. Dunnet Hd. Nov. 24
PECTAN	Taltal	San Francisco	Arr. Dec. 8	TRINCULO.....	Tocapilla ...	Port San Luis	Arr. Dec. 8
PENNOIL	Tyne	Port Arthur..	Pd. Dunnet Hd. Nov. 27	TRINIDADIAN.....	Tuxpan	Tampa	100 miles W. of Egremont Key Dec. 1
PETROLEINE	Bordeaux ...	New York ...	L. Nov. 27	TRITON	Baton Rouge	Hamburg ...	L. Dec. 4
PETROLEUM	—	—	Pd. Owers Nov. 21	TROCAS Δ	Tsingtau ...	Hong Kong ...	Arr. Nov. 28
PHOEBUS	Caleto Buena	Callao	Arr. ab't Dec. 3	TURBO	Singapore ...	Calcutta	L. Dec. 6
PINNA □	Manchester & Liverpool	New Orleans	Pd. Kin-ale Nov. 23	UNCAS	Mi-ike.....	San Francisco	L. Nov. 22
PONUS	Shanghai & Mi-ike	San Francisco	Arr. Dec. 8	VEDRA	Tyne	Philadelphia.	L. Dec. 6
POTOMAC*	Liverpool ...	Sabine.....	Arr. Norfolk, Va., Dec. 2	VILLE DE DIEPPE (Norwegian Barque)	La Pallice ...	Philadelphia.	L. Nov. 30
POWHATAN	San Francisco	Taku Bar ...	Arr. ab't Nov. 17	VITRUVIA.....	Avonmouth	Philadelphia.	Arr. Dec. 6
PROMETHEUS.....	Antofagasta..	Callao	L. Dec. 1	VOLCANUS	Singapore ...	Palembang...	Arr. Dec. 6
PRUDENTIA.....	Tampico ...	New York ...	Arr. Nov. 23	VOLUTE Δ	Hong Kong..	Balek Pappan	Arr. Dec. 8
PURELIGHT	Hamburg & Tyne	Philadelphia.	Pd. Dunnet Hd. Dec. 5	WABASHA.....	Tientsin	San Francisco	Arr. Dec. 9
QUEVILLY (Fr. Bq.)	Havre	New York ...	Arr. Dec. 6	WANETA (lt. Impoco)	Tampico	Tampa	Arr. Nov. 30
RADIOLEINE II. ...	Rouen ...	Kustendje ...	Pd. Dardanelles Dec. 6	WAPELLO	London	New York ...	Arr. Dec. 1
RANELLA	Tientsin	Balek Pappan	L. Nov. 30	WASHINGTON	Hamburg ...	Kustendje ...	Pd. Gibraltar Dec. 4
RENDOVA (Br. Bq.)	New York ...	Alicante & Seville	L. Dec. 1	WEEHAWKEN	Seville	Cienfuegos...	Arr. Nov. 30
RICHMOND	New Orleans.	San Francisco	Arr. P'ta Arenas (Mag.) ab't Nov. 26	WILLIAM F. HERRIN	Everett	Port San Luis	Pd. Tatgosh Nov. 27
RION	Liverpool ...	New York ...	Pd. Fastnet Nov. 22	WILLKOMMEN	Tyne	Philadelphia.	Arr. Dec. 3
ROCK LIGHT □	Kustendje ...	London	Pd. Dungeness Dec. 11	WINAMAC.....	New York ...	Port Said ...	Arr. Algiers Nov. 8
				WOTAN	Hamburg ...	New York ...	Pd. Lizard Nov. 25 and in wireless com. Nov. 25

The Petroleum Review Directory.

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AIR COMPRESSORS.

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AUTOMATIC CASK FILLERS (CRAWFORD'S).

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BELTING MANUFACTURERS.

Willcox, W. H., & Co., 32 to 38, Southwark Street, S.E.

BOILERS.

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BORING TOOLS.

Deep Well Tool and Boring Co., Ltd., St. Albans.
Galizische Karpathen Petroleum-Aktiengesellschaft,
Glinik Maryampolski, Galleia, Austria.
Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.
Oil Well Supply Co. (Pittsburgh), Dashwood House,
London, E.C.
Thom, John M., Patricroft, near Manchester.
Trauzl & Co., Vienna.

BUILDINGS.

Boulton & Paul, Ltd., Norwich.

CHEMICALS.

Spencer, Chapman & Messel, Ltd., 36, Mark Lane, London, E.C.

DRILLING MACHINERY.

Deep Well Tool and Boring Co., Ltd., St. Albans.
Fraser & Chalmers, Ltd., 3, London Wall Buildings,
London Wall, E.C.
Marshall, Son & Co., Ltd., Britannia Works, Gainsborough (Boilers and Steam Engines).
Oil Well Supply Co. (Pittsburgh), Dashwood House,
London, E.C.
Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.

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Hatch, Geo., Ltd., 20-21, Queenhithe, Upper Thames Street, London, E.C.
Willcox, W. H., & Co., Ltd., 32 to 38, Southwark Street, S.E.

LAMP OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.
Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.
Homelight Oil Co., Ltd., 14, St. Mary Axe, E.C.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

LIQUID FUEL BURNERS.

Kermode's Liquid Fuel System, 35, The Temple, Dale Street, Liverpool.

LIQUID FUEL IMPORTERS.

The Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.
Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.
Lubricating and Fuel Oils, Ltd., 101 Leadenhall Street, London, E.C.

LIQUID FUEL INSTALLATIONS.

The Wallsend Slipway and Engineering Co., Ltd., Wallsend-on-Tyne.

LUBRICATING OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.

Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.

Bramwell, Fern & Co., London, Manchester and Liverpool.

Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.

Crew Levick Co., Irwell Chambers, W. Liverpool.

Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.

Meade, King, Robinson & Co., 22, Water Street, Liverpool, and Manchester.

The Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Works Co., Pittsburgh, Pa., U.S.A.

Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Phillpot Lane, London.

OIL BROKERS.

Benjamin & Gee, 61, St. Mary Axe, E.C.

Bramwell, Fern & Co., London, Manchester and Liverpool.

Lane & Macandrew, 26, Great St. Helen's, E.C.

OIL EXPORTERS.

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Meade, King, Robinson & Co., 22, Water Street, Liverpool.

The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

Waverley Oil Works Co., Pittsburgh, Pa., U.S.A.

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Norris & Henty, 87, Queen Victoria Street, E.C.

Marshall, Sons & Co., Ltd., Britannia Works, Gainsborough.

OILS.

Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.

Anglo-Maikop Corporation, Ltd., 7, Angel Court, E.C.

Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.

Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.

Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.

Crew Levick Co., Irwell Chambers, W. Liverpool.

Homelight Oil Co., Ltd., 14-20, St. Mary Axe, E.C.

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Hayward-Tyler & Co., Ltd., 99, Queen Victoria Street, London, E.C.

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Spencer, John, Ltd., Globe Tube Works, Wednesbury.

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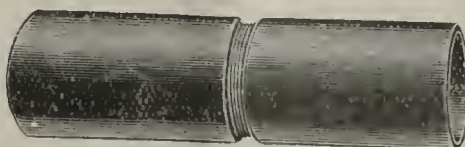
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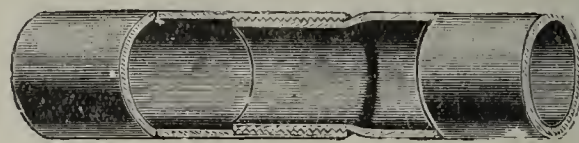
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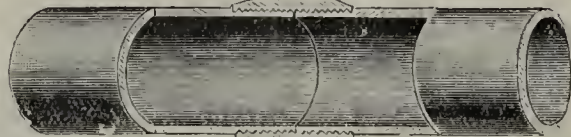
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The Petroleum Review.

Founded by PAUL DVORKOVITZ.

VOL. XXIX. (New Series.)

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THE PETROLEUM REVIEW.

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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

TO OUR READERS.

To our Readers at Home and Abroad
—to those thousands associated with
the Petroleum Industry in every part
of the World—we extend with all
heartiness the time-honoured wish—

“A Merry Christmas.”

The Recent Motor Fuel Competition.

THE recent competition organised by the Society of Motor Manufacturers and Traders, Ltd., in conjunction with the Royal Automobile Club, with a view to seeing whether it were not possible to replace motor spirit by a less costly fuel produced entirely from materials available in this country, does not appear to have brought anyone much nearer a solution of what many consider a serious problem. The REVIEW has always held that there has never been any real need for the outcry as to the possible dearth of petrol supplies, but there have been many who have urged that an alternative fuel was a necessity, especially in view of the increasing consumption of motor spirit and its increasing price. Such universal interest was taken in the competition that thirty-eight communications were received from eight countries, all of which were submitted to Sir Boverton Redwood for his report. That report has in turn been submitted to the council of the society, which has now announced that in not one single instance did any of the applicants comply with the conditions. It is pretty certain, therefore, that for some time to come we shall not hear so much about home-produced substitutes for motor spirit, though we

still believe there are ways and means by which we might not be so dependent upon foreign-produced motor fuel.

Canada's Declining Oil Output.

IT is more than passing strange that, in the face of the fact that the Dominion Government of Canada offers a substantial bonus upon home-produced crude oil, the output continues year after year to appreciably decline. Last year the total Canadian oil production was only 243,000 barrels, as against over 290,000 barrels for the preceding year. Thus, for the past five years the production of crude oil in Canada has continuously declined, and even now shows no sign of materially increasing. The retrograde movement which the Canadian oil-producing industry has witnessed of late years is clearly seen from the fact that, while twelve years ago quite 50 per cent. of Canada's needs for petroleum products were satisfied by its home production, to-day this is incapable of supplying more than 5 per cent. of the demand. Canada's loss, however, is a distinct gain to the United States, much of whose oil will, in the future, be transported into the Dominion by pipeline.

The Attack against Lord Cowdray's Oil Interests.

THE attack which is still being directed in America against the extensive interests of Lord Cowdray and his associates is assuredly most unwarrantable. It needs but a most cursory glance at the remarkable progress which has of late years been made in the development of Mexico's oil resources to convince one that this would have been an absolute impossibility had not such a powerful array of experience and finance been forthcoming, and what has been done in the Mexican Republic, it is safe to assume, would be repeated in other parts of Central and South America wherein the Cowdray interests desired to operate. There is no doubt that the American Press has had a great deal to do with the fostering of that spirit of antagonism in Governmental circles against this enterprising English corporation, and the pity is that a serious barrier to progress has been erected as a consequence, the effect of which will be most acutely felt in the future.

Japan's Kerosene Import Trade.

THE REVIEW has just received some interesting figures with respect to the illuminating oil import trade of Japan during the present year, which figures are of importance as showing how dependent is that Empire upon the United States for its needs in regard to artificial light. The figures, which are official, show that during

eight months of the present year the United States sent to Japan 21,000,000 gallons of kerosene, as compared with 28,000,000 gallons during the corresponding period of last year, and 29,000,000 gallons for the first eight months of 1911. Thus Japan is not taking anything like the great quantities of illuminating oil she formerly did from America, but seeking for the fulfilment of her demands nearer home, for we note that for the same period this year she has imported over 12,000,000 gallons of kerosene from the Dutch Indies, which is a record amount when compared with the figures for the corresponding periods of previous years. The United States, however, still remains the chief oil exporter to Japan, though to-day, more than ever before, she is feeling the wave of competition which in the Far Eastern markets is particularly severe.

MEXICAN LIQUID FUEL FOR RUSSIA.

H.M. CONSUL at Batoum (Mr. P. Stevens) reports that the very high price of Russian mineral oil products and the existing exaggerated prices of liquid fuel in the Caucasus have compelled the Trans-Caucasian State Railway authorities to import fuel oil for use on their line. Accordingly they have ordered 1,500,000 poods (about 24,000 tons) of Mexican crude oil, which is to be delivered before December 28th next, i.e., the date of the expiry of the term granted by the Russian Government for the duty-free admission of fuel oil for railway use (see p. 524 of the "Board of Trade Journal" of August 28th last). The oil is to be delivered at Batoum at the price of 40 copecs per pood (about £2. 14s. per ton).

H.M. Consul states that the possibility of importing crude oil into Russia from Mexico at a price which enables it to compete with the home product in the heart of the oil zone has created quite a sensation in commercial circles at Baku. Indeed, the arrival of the first consignment of Mexican oil at Batoum on November 15th had the immediate effect of causing the price of Russian crude oil to drop from 46 to 38 copecs a pood (about £2. 18s. to £2. 11s. per ton) at Baku, and this level will probably be maintained so long as the importation of foreign oil continues.

If the price of Russian oil does not decline considerably, and should the Russian Government extend the period of free importation of liquid fuel—an eventuality which is being much discussed—it is probable that other Russian railways consuming fuel oil will follow the example of the Trans-Caucasian State Railway.

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PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended December 13th was 114,000 poods.

SPIES PETROLEUM COMPANY, LTD.—The production for week ended December 14th including 1,040 poods from ambars was 280,035 poods, or about 4,517 tons. The total production for the year from January 14th to December 14th was 12,663,815 poods, or about 204,255 tons. The total production for the corresponding period last year was 15,367,565 poods, or about 247,864 tons. Price of crude oil at Baku is now $41\frac{3}{4}$ copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended December 13th was 19,874 poods, or 321 tons.

EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended December 14th was 105,700 poods, or 1,704 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended December 13th was 117,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended December 13th was 23,349 poods (377 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended December 13th was 7,250 poods (117 tons).

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended December 14th was 16,792 poods, or 271 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended December 13th, 104,850 poods, or 1,691 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest production for week ended December 16th was 6,305 tons. Corresponding period last year, 1,726 tons. Total production to date for this year, 125,239 tons; last year, 35,535 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended December 14th was 101,500 poods, or 1,637 tons.

MAIKOP MIDLAND.—Production at Krinskaya for week ended December 6th was 6,200 poods, or 100 tons.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended December 13th was 15,786 poods (254 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended December 13th was 1,550 poods (25 tons).

CHELEKEN OILFIELDS, LTD.—Estimated production for the fortnight ended December 6th was 1,867 tons.

LIQUID FUEL FOR STEAM RAISING.

ADDRESS BY SIR BOVERTON REDWOOD, BART.

THE use of oil for steam raising was discussed in detail by Sir Boverton Redwood, Bart., the other day in his presidential address before the Junior Institution of Engineers. "Experimental investigations carried out by the United States Naval Liquid Fuel Board with many forms of burners," said Sir Boverton, "led to the conclusion that the actual evaporative efficiency of a pound of oil as compared with a pound of coal might be considered in the ratio of 17 to 10, but that, taking various circumstances into consideration, the relative efficiency of oil and good steam coal from the naval standpoint of fuel supply in warships might be regarded as in the ratio of 18 to 10."

"For the use of such oil in steam raising," Sir Boverton added, "many systems have been from time to time patented." Several of them have been introduced since the United States of America Navy Board experiments. One of the simplest devices was the burner of Nobel, which consisted of a number of shallow troughs, arranged in superimposed series at the front of the furnace, so that the burning oil flowed by successive stages from the highest to the lowest, the flame of the burning fuel being swept into the furnace by induced draught between the troughs. With this apparatus it was found that 1 lb. of Russian ostatki (petroleum residuum) evaporated $14\frac{1}{2}$ lb. of water, whereas with the same boiler 1 lb. of coal evaporated only 7 lb. of water.

The Bone-Court system of surface combustion, invented by Professor William A. Bone and Mr. C. D. McCourt, said Sir Boverton, might prove to be a most economical system of using oil fuel. The process could be carried out by two alternative methods. The first of these, which was termed the diaphragm process, consisted in causing a homogenous mixture of combustible gas and air in suitable proportions to flow under slight pressure through a porous diaphragm of refractory material, with the result that it burned without flame at the surface of exit, and the diaphragm was thus maintained in a highly incandescent state. The second method, which was termed the granular bed process, injected a mixture of gas, vapour, or air in suitable proportions through a suitable orifice into a bed of granulated refractory material, at a speed greater than the velocity of back-firing. Combustion being thus instantaneously completed without flame a temperature of 200° C. could be maintained. The granules could be packed into boiler tubes or round crucibles.

Mr. James Holden, who had demonstrated the advantages of liquid fuel on the Great Eastern Railway, devised an injector by means of which the oil was drawn into the jet, together with the necessary amount of air, by means of a current of steam, and is thus broken up into spray. The atomisation was completed by an independent steam supply passing through a hollow ring, which was pierced with holes in such a manner that the issuing jets of steam converged towards

the nozzle and struck across the current of partly sprayed oil. Mr. Holden claimed that, weight for weight, liquid fuel had, according to his experience, twice the calorific value of coal.

Mr. J. J. Kermode had patented three types of appliances for burning oil fuel, viz., a hot-air burner, a steam and induced-air burner, and a pressure-jet burner. The hot-air burner was claimed to be specially applicable to forging and welding furnaces, core drying, ore-reducing furnaces, bakeries, gas retorts, brewing and distilling plants, annealing and tempering furnaces, glass furnaces, rivet heating, brass melting, cloth-singeing machines, refuse destructors, electric power plants, and fire engines, as well as for drying rooms for malt, tea, and timber seasoning, and for heating public buildings.

Meyer's system, which was in use on a large number of steamships, was based on the principle of supplying the previously heated and strained oil under pressure to the burners, and it included an arrangement for heating the air and controlling its admission to the furnaces.

One of the first of the pressure burners, or burners effecting the atomisation of the oil without the use of steam or air, was that of Swensson. The oil, after being filtered or strained, was forced at high pressure (sometimes as much as 300 lb. per square inch) through an orifice 1 mm. in diameter, and was caused to impinge on a knife edge, where it was broken up into fine spray. Körting's pressure burner was constructed with a spiral annular passage, and in travelling through this to the jet the oil acquired a rotary motion, so that on escaping from the jet it was sprayed by centrifugal force in a finely divided state.

The burner invented and patented by Sir John Thornycroft was one of the successful forms of pressure burner. It was so constructed that the orifice could rapidly and readily be considerably enlarged or contracted, so that it could quickly be cleared if it should become choked.

The White Mechanical Fuel Oil Burning System, which was patented last year, and had been adopted by the principal steamship lines using fuel oil in the United States, appeared to be a thoroughly effective system for the atomisation and combustion of the heaviest and most viscous oils for marine use in steam raising. The burner, which was of the pressure type, was so constructed that several separate streams of the finely atomised oil were ejected with a spiral motion in the form of a "swirling mist," the combustion of which commenced as soon as it left the burner. For natural draught it was used in conjunction with an air-beating front. It was claimed that smokeless combustion was attained.

The Wallsend Slipway and Engineering Company's burner had a nozzle with a conical orifice, from which the heated oil, under a pressure of from 60 lb. to 80 lb. per square inch, issued as a spray in the form of a

conoidal column of large diameter, with a rotary movement imparted by a helix on the valve stem, the resulting centrifugal effect materially assisting in the diffusion. The improved construction of the furnace front was the principal feature of the Wallsend-Howden system of oil burning as applied to marine boilers. One advantage of this system was that the direct radiation of heat from the furnace was prevented. When used with forced draught on Howden's system, with the closed furnace front, an efficiency as high as 16.22 lb. of water evaporated at 212 degrees Fahr. was claimed to have been obtained per pound of oil of a calorific value of 18,770 thermal units, an efficiency of 83.9 per cent. The Dahl system differed from the Wallsend-Howden chiefly in the method of construction of the furnace front and the arrangement for the admission of air. The burner had been stated to be noiseless.

In the use of oil fuel the construction of the furnace was of the highest importance, for it was needful that the combustion should reach an advanced stage before the flame came into contact with cooling surfaces. It would readily be understood that, with the limited furnace space available in steamships, and especially in warships, it was exceptionally difficult to devise conditions under which smokeless combustion could be obtained. The difficulty had been overcome by the adoption of a form of burner which gave a spreading flame commencing close to the jet, and by heating the oil, but chiefly by the provision of an effective air-heating furnace front.

One of the advantages attached to the use of oil as a substitute for coal, or even as an adjunct to coal, in warships, was the valuable capacity for rapidly increasing the production of steam. In commenting upon the advantages of oil fuel, as demonstrated in the naval manœuvres carried out under Admiral May, in 1906, Admiral the Hon. Sir E. Fremantle said:—"When the stokers were pretty well worn out and had used all the coal that was nearest to hand, and much labour would be necessary to fetch coal and bring it to the fires, then they were able to use the oil fuel, and I believe I am correct in saying that the four ships which

had oil fuel steamed away even from ships with nominally greater speed."

Sir Boverton concluded his address by pointing out the necessity for highly trained men in the development of oilfields. He drew attention to the facilities now being afforded by Birmingham University, the Royal School of Mines, and Pittsburg University, and the advantages which might accrue from the recent formation of an Institution of Petroleum Technologists.

THE PETROLEUM IMPORT TRADE OF FRANCE.

Statistics for the Nine Months.

THE total quantity of petroleum products imported into France during the nine months amounted to 538,783 tons, as against 531,637 tons imported during the corresponding period of 1912. The quantities of products imported from the various countries are shown in the following table:—

From	Crude Oil. Tons.	Kerosene. Tons.	Benzine. Tons.	Residuals and Heavy Oils. Tons.
United States ...	67,656	103,648	45,195	57,290
Russia ...	24,992	4,760	37,193	51,280
Roumania ...	32,488	6,864	44,925	—
Austria ...	—	103,648	6,997	—
Other countries ...	—	3,336	5,737	14,870
Totals...	125,136	150,160	140,047	123,440

Change of Address.—Our readers will please note that Messrs. Perkins Macintosh Tool and Boring Company, Ltd., of St. Albans, whose London offices have hitherto been at 79, Bishopsgate, E.C., have now taken new offices situated at 25 and 27, Bishopsgate, E.C., to which address after to-day all communications should be sent.

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THE OILFIELDS OF BURMA.

Their History and Development.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

Reprinted from
"Memoirs of the
Geological Survey
of India."
Volume XL, Part I.

(Continued from page 504.)

"MUD VOLCANOES" OR SALSSES, AND SEEPAGES.

It cannot be too emphatically denied that in Burma so-called "mud volcanoes" have anything whatever to do with volcanic phenomena. They are entirely due to the escape of gas, the mud and rock-fragments being purely accidental accompaniments, and constitute a perfectly normal part of the hydrocarbon occurrences in the "oil-belts." There is every gradation between a small insignificant oil or gas seepage and the conspicuous mounds or cones like those on the Arakan coast, whose terrific outbursts afford some excuse for their having been mistakenly attributed to volcanic disturbance.

Oil seepages occur over a large part of Burma in both Nannulit and Pegu rocks, but more especially in the latter: two "mud volcanoes" occur in Negrais beds near the coast. Intrinsically their value as indicators of workable oil deposits may be practically nil, as more than one prospector in the country has found to his cost. An area may be prolific in seepages—occurring along small faults or outcropping strata—and be of small value from a commercial point of view. The size of a seepage may be equally meaningless: it takes but a small quantity of oil or gas to produce a conspicuous seepage, a quantity out of all comparison with the amount required to make the ground worth exploiting, especially in an inaccessible locality where the initial expense is great. There has been a reaction lately in Burma, and a tendency to mistrust and avoid seepages. Read together with the structure, the nature of the strata, and the position of the locality, however, they may afford valuable evidence. Oil seepages do at least show that a certain amount of oil exists at certain horizons: an experienced eye alone can estimate their value and this only when the structure of the locality has been understood. Each of the four large oilfields, Yenangyaung, Singu, Yenangyat, Sabe, it must be remembered, were and still are, characterised by them.

Oil seepages like the "mud volcanoes" show no abnormal temperature and no volcanic characteristics. They are of two kinds. One consists of an outcropping oil sand which has been laid bare by denudation. The oil is usually thick and its escape very slow, while gas is almost entirely absent. Tarry or black bituminous matter in small quantities often characterises them; they are frequently reduced to darkish sandstone with a smell of petroleum. Obviously this kind of seepage need not occur at the crest only, but at any exposed horizon of an anticline. This is the kind which was observed in the four oilfields, but it is quite common elsewhere. The second variety is usually found upon the crest of an anticline, or upon a fault. In any case it must coincide with a fissure or fault, but this may be small and often cannot be seen. This kind is usually gassy, especially on the crests of anticlines, when gas may predominate exclusively or nearly so over oil, the place

of which is taken by saline water. The water may be almost clear, in which case we have a "gas-pool," with or without a surface layer or film of oil. These pools may be several yards across, as they are at Minbu, with an evolution of gas brisk enough to produce the effect of boiling, or they may be mere specks as large as a rupee coin, emitting minute bubbles periodically. In many cases the water has no outflow, so that it is clear it is brought up in quantities just sufficient to compensate evaporation. More usually the disturbing movement of the gas bubbles causes the water to wear off particles of clay and become muddy. With sufficient to overflow, there is then a tendency to form a mound, and if the proportion of sediment is high a cone or "mud volcano" ("Naga" of the Burmans) is the result, the steepness of the slope depending upon the consistency of the mud. In cases where this is very viscous, the angle of slope may rise to as high as 45° , or just below the crater-rim even to 60° . The height of the cone may vary from a few inches to 80 ft. or more, but its material is very easily removed by rain. The rainfall, in fact, is a prominent factor in the resultant height or shape of cones. In the dry zone, at Minbu, for instance, they are apt to be steep and high in comparison with the rate of eruption of the mud: in a rainy region, such as the Arakan coast, they are typically flat and mound-like, the exceptions being small and observable during the dry months in which they have found it possible to build themselves up. As in the case of the gas-pools, the amount of mud brought up by the larger bubbles of gas is very small. It may or may not always be large enough to brim over the top and keep moving very slowly a narrow mud stream or "mud lava," the flow of which is apt to be intermittent. Where several vents lie close together, they are usually arranged linearly, but often with one or two outlying individuals. The lines no doubt represent small fissures or faults, which in all probability extend to shallow depths only, and are the result of flexure; genetically, similar fissures filled with calcareous matter, intersect the crest of the Kabat anticline.

In Burma we have two types of "mud volcanoes." In the commoner one the only material besides water brought up by the lifting action of the gas is fine, intensely blue sediment identical with that brought up by the "baler" in drilled holes. It is derived from the unweathered blue clays so characteristic of the Pegu beds, and is accompanied by occasional small fragments of iron pyrites. The gas bubbles up through this gently and intermittently. Dr. Oldham, speaking of the Minbu salses in 1855, said there appeared to be a rude approximation to some law by which the main bursts occurred at intervals of 30 seconds, but there were many small ones between, and there was no law traceable with anything like accuracy. At the times of my visits I was unable to establish any law of this kind. The movement of eruption and the periods between the bursts in adjacent vents are independent of each other, and are obviously accidental features depending upon the average size of the vertical channel, the size and shape of the cavity at its base, the amount of gas, etc.

(To be concluded.)

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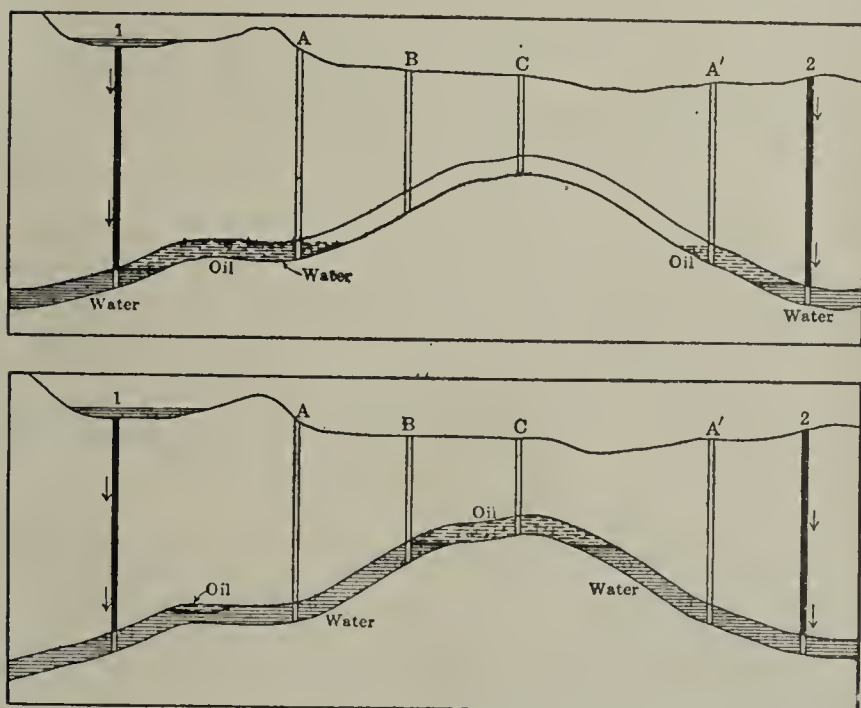
THE DECLINE OF OIL-PRODUCING WELLS.

POSSIBLE CAUSES AND SUGGESTED REMEDIES.

By Mr. L. G. HUNTLEY.

(Continued from page 650.)

THE effect of gravitation in many pools is usually overlooked. That gravitation tends to cause the accumulation of the remnant of oil in some pools is undoubted; and some instances of abandoned fields that have been rejuvenated and are again productive can, no doubt, be explained on this basis. In a fine-grained sand movement by gravity may be so slow as to make it of no consequence during the operation of an oil operator's lease. However, in a soft or very porous stratum of rather pronounced dip, or one that lies in such a manner as to form a decided catchment area for oil, the movement down the dip may, in a comparatively



Effects of flood water and arrangement of wells drilled to utilise flood-water pressure.

short time, replenish the oil drained off by wells. This factor should, therefore, be recognised. In fact, in some pools it may explain the total production of many small wells.

A coarse vesicular oil rock would be particularly favourable for this movement. In the Oil Springs pool, in Ontario, advantage is taken of the annual advance of oil ahead of the fresh water influx from the spring freshets. As indicated in the above sketch, the water in this locality obtains entrance to the oil rock through abandoned wells drilled from low points on the surface. Certain "live" wells located at strategic points are pumped successively, resulting in a large recovery. The possibilities of such procedure are readily apparent.

Of especial interest in this connection are the possibilities of introducing water into wells located at the crest of the dip to aid in the gravitation of the oil, assuming that the oil is already concentrated in large enough quantities to make drilling pay. This movement down the dip to a catchment area would probably be accelerated by drilling wells at high points on the dip to admit atmospheric pressure behind the oil. This

would appear a necessity, as under the assumption that the oil rock is an air and fluid tight reservoir a medium for replacing the oil would have to be furnished from an outside source. This theory disregards the factor of gas pressure, which in fields producing heavy asphaltic oils is negligible, and in many cases is entirely dissipated in the early history of some high-grade oilfields.

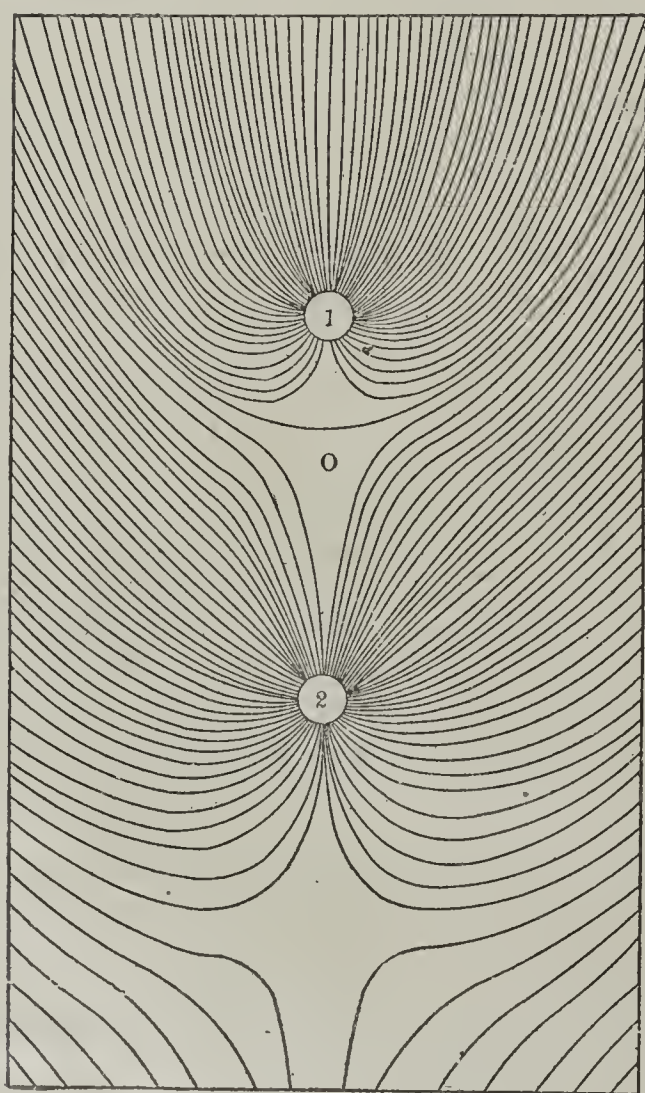
In fine-grained sandstone, such as the Clinton sand in Central Ohio, capillarity may so retard the action of gravity that the latter may be neglected by the operator, especially in a region of low monoclinal dips such as exist in that part of Ohio. In certain of the older Pennsylvania and West Virginia fields, however, this force may be the explanation for the "coming back" of old districts, a phenomenon that caused pioneers in the oil industry to believe that oil was being formed continually in underground sources, and that its exhaustion was impossible. In fact, speculation as to the possible "coming back" of many pools has led to the spending of thousands of dollars in comparatively recent years, when carefully collected information might have shown such expenditure to be useless. Again, assuming with Carrl that the oil rock is a "practically sealed reservoir," a modification of the theory of the action of gravitation in the recovery of oil may be necessary to account for wells that produce little or nothing until later wells are drilled higher up the dip, when the first wells show a marked improvement in production. The movement of the oil down the dip is then seemingly aided by atmospheric pressure from above. This theory also assumes an absence of original rock pressure or its previous exhaustion. An atmospheric pressure of fifteen pounds per square inch in the wells first drilled is sufficient to keep back the oil until an equalising pressure from behind is applied. If gas exists in the rock, its expansion will furnish this replacing medium.

The production of some wells improves after the drilling of neighbouring wells, a result that may probably be explained on a basis similar to the above. In oil wells the atmospheric pressure, combined with the retarding capillarity of the sand, may be sufficient to prevent recovery. However, the contrary effect was observed in two wells in the pool at Vinton, La. The oil is of a heavy asphaltic base, with no gas. The first well encountered a "pay" sand so soft that the rotary bit dropped through of its own weight. It began to produce oil, and continued until a second well was drilled close by. This second well struck the same sand in the same condition, but it immediately collapsed or "packed," and thereafter neither well produced a gallon of oil. As the rest of the field was pumping oil from this sand, and as the oil in the sand was therefore under less than atmospheric pressure, the admission of air to the sand in the second well,

combined with the draught in the direction of the pumping wells in older parts of the pool, may have been sufficient to drive the oil in that direction, the sand then collapsing, possibly from atmospheric pressure, as the drillers state that the well was not flooded.

The famous Triumph pool in Pennsylvania is a historic example of wells pumped at less than atmospheric pressure. The gas pumps kept from ten to twelve pounds vacuum on the sand at all times, thus relieving the pressure sufficiently to allow the recovery of the oil. In such pools as this, if conditions permit, air holes drilled at strategic points and left open would undoubtedly result in the flow of oil toward the pumping wells, without the added expense of gas pumps. In other districts, where recovery is small, a like procedure would be a profitable means of more rapid recovery, if proper care were exercised. It is, however, true that in many wells air reaches the oil sand between the bottom of the casing and the end of the tubing, and that by connecting a vacuum pump to the casing the flow of oil is increased.

In some regions, where the dip of the rocks is steep, as on pronounced anticlines or monoclines, the action of gravitation on the flow of wells is noticeable, and those wells located up the dip will tend to drain the oil from those lower down. Rival producers, in

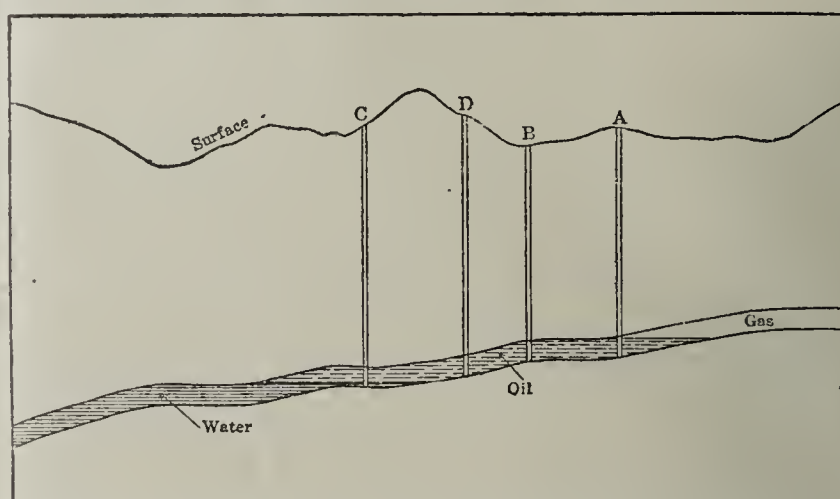


Lines of flow into two interfering wells.

locating their wells, take advantage of this action. The best practice is, of course, to space wells closer across the dip than in the line of dip.

As part of the oil is drained from the pool by wells, the remaining part tends to move down the slope of the sand, lowering its upper level so that wells located up the dip (as well A in the sketch) cease producing, some of them probably developing a small gas production. As this action proceeds, a well farther down

the dip (as well B in the sketch) will begin to fail, until a well located as at C will be the only producer and hence the longest-lived well in the pool.



Effect of movement of oil and exhaustion of oil sand on yield of wells.

In those pools in which the decline has been normal, with a maximum recovery of the oil, decline in production will depend only on the exhaustion of the gas pressure and the decrease of the available underground supply. Advantage is sometimes taken of natural forces that tend to conserve the expulsive energies of the petroleum in the rock, thus preventing the formation of excessive obstructive sediments and eliminating water problems until later in the life of the well. The character and porosity of the oil rock affect the extent of the drainage, the most favourable material for rapid drainage being a sandstone that is coarse and porous, though not loose enough to allow the setting up of sharply defined drainage channels by the flow of oil and water through the sand. On the other hand, more sudden gas expansion takes place in such a sand than in one of a close texture, and if the oil becomes chilled, wax will form unless care is exercised.

The decrease under consideration occurred at the Petrolea, Oil Springs, and Bothwell pools in Ontario, the wells in those pools exhausting from the outward edges of the productive area inward. The famous Glenn pool of Oklahoma is another example, the oil sand being coarse, porous, and uniform in texture, there being no water problem and no excessive waxing of the sand face or the pumping rods. Pumping is regular and consistent, and the wells as a rule are uniformly spaced. As a result, the decline is normal and gradual, the fluctuations in the production of a group of wells occurring only at times of cleaning or as a result of unfavourable pipeline conditions.

There have been oil wells and gas wells that increased their production for a time after a neighbouring well had been completed. In the Mansfield district, south of Shreveport, La., both the pressure and the volume of some of the pioneer gas wells increased greatly for the first few months. The increased production in such cases is probably due to the cleaning out of seepage and drainage channels in the rock as a well is drawn upon. Although one well had an initial pressure of 60 lbs., which increased in four months to more than 250 lbs. closed pressure, yet if the well had been closed for a sufficient length of time to allow the full pressure to accumulate in the casing, the initial pressure would probably have equalled that recorded later. Such wells are usually evidence that the drilling has been done near the edge of an oil or gas pool, and not in the best place.

(To be continued.)

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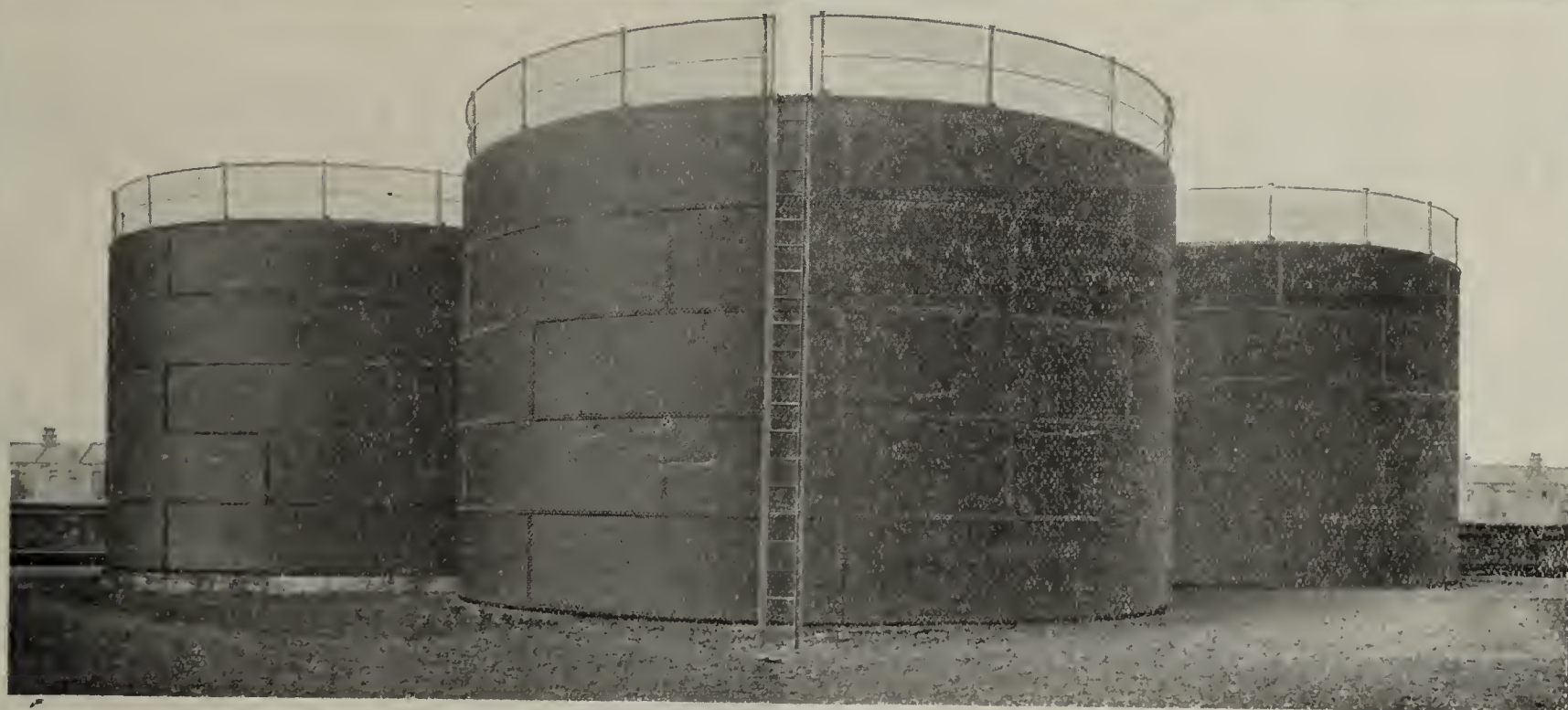
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Bibi-Eibat Oil Co. ...	250,000	10/-	6/0-7/0
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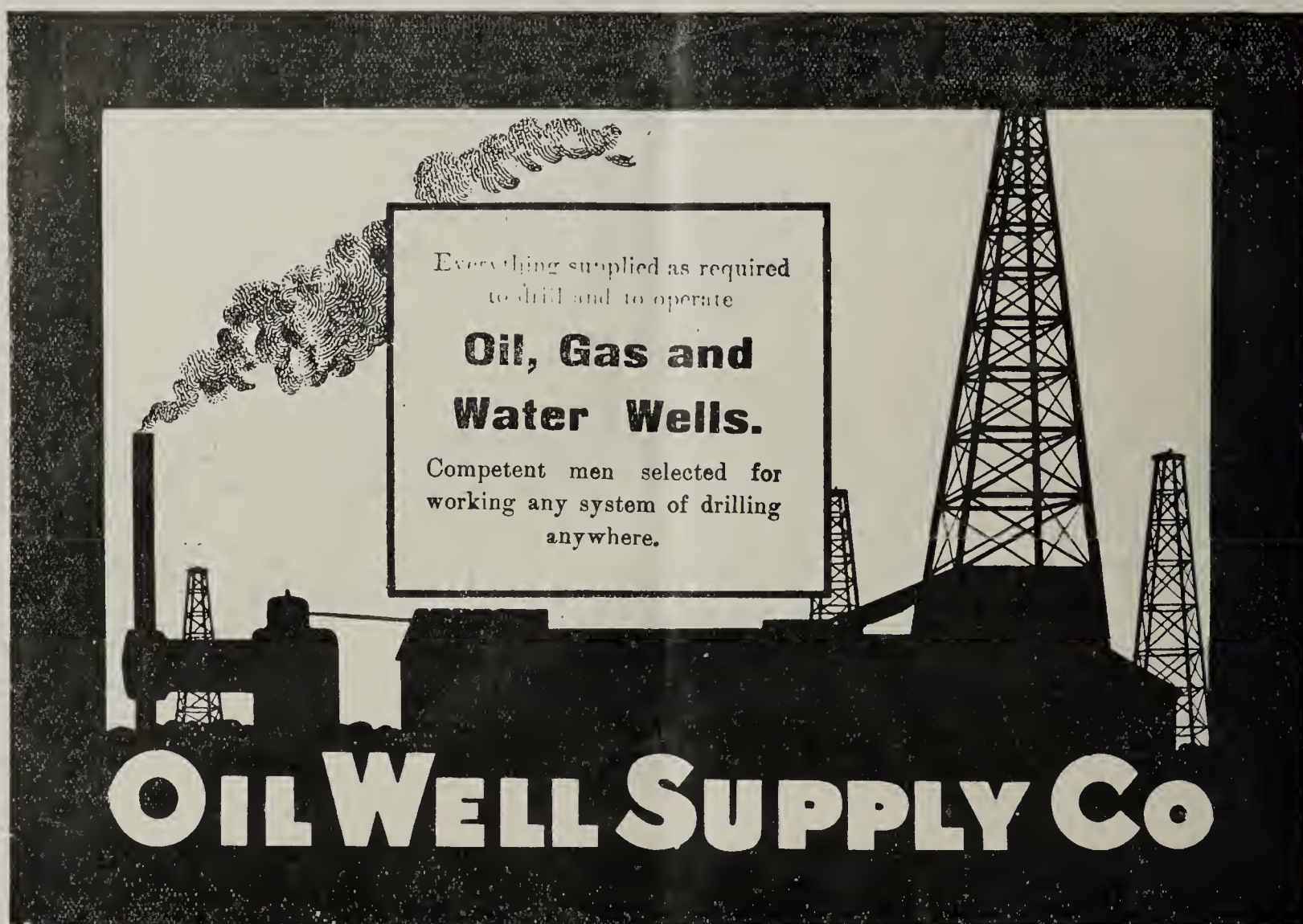
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CHIEF CONTENTS.		PAGE
Editorial Notes	...	659
Production of English Companies in Russia	...	660
Liquid Fuel for Steam Raising	...	661
The Oilfields of Burma	...	663
The Decline of Oil-Producing Wells	...	665
Latest Quotations of Petroleum Shares	...	668
The United States Government and Liquid Fuel	...	671
Classified Imports into the United Kingdom	...	672
Notes from the Oilfields	...	673
The Situation in Galicia	...	674
Interesting Launches on the Tyne and Wear	...	675
Miscellanea	...	679
The Oilfields Finance Corporation, Ltd.	...	680
Petroleum Imports into the United Kingdom during November	...	681
Home and Foreign Market Intelligence	...	682
Imports of Petroleum Products	...	684

THE

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45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, DECEMBER 20TH, 1913.

THE UNITED STATES GOVERNMENT AND LIQUID FUEL.

FOLLOWING upon the decision of the British Admiralty to make certain, as far as possible, that its necessary supplies of liquid fuel for the future will be forthcoming, the Secretary of the United States Navy has now formulated a scheme, the intention of which is to commit the United States Government to a

policy of independent operations wherever possible for the necessary naval supplies of oil fuel.

There is no doubt that the United States Secretary has framed this policy of independence mainly as a result of the example of Great Britain, for it will be remembered that in the proposal of the First Lord of the British Admiralty to safeguard an adequate supply of fuel oil for the growing requirements of the navy Mr. Churchill went so far as to suggest a time might soon come when Great Britain would have its own oil-fields, its own refineries, and its own transport fleet.

The position, however, with regard to the United States and its navy is totally different. The United States navy has the enormous advantage enjoyed by few other nations in that great oilfields exist in their country close to the Atlantic, the Gulf of Mexico, and the Pacific, so that the necessary supply of oil is assured.

Those who have studied this question, therefore, may have wondered why the United States has not taken a greater lead in adopting the exclusive use of oil fuel, and thereby reaping the benefits of its many advantages in ship-construction and in reliability of operation.

But now, however, the United States navy is on the point of totally going over from coal to liquid fuel, and it is, therefore, opportune that Secretary Daniels should at this moment urge legislation to establish Government control of naval fuel supply.

In the following sentences Secretary Daniels makes an impressive reference to the United States fuel oil facilities, for he says:—

“If England, geographically handicapped and with no large sources of supply within her own borders, has concluded that this is the wise and economical policy (the establishment of refineries by the royal navy and the handling of its own oil transportation in order to secure the kind of oil it wants and reduce the burden of expense), how can the United States, with bounteous flowing oil wells on Government lands already existing, and with fields near to both the East and West coasts, escape the charge of wilful waste of public moneys if it continues to purchase oil at prices that may fatten the pockets of a few oil companies, but which increase the burden of the taxpayer?” It was declared: “The price of oil is steadily creeping upward, so that to-day the United States navy is paying over twice as much as it did in 1911.”

The present annual consumption of oil for the American navy is placed at 30,000,000 gallons, but Secretary Daniels believes the future requirements will reach 125,000,000 gallons, every gallon of which must be

purchased from oil companies unless Congress granted authority for the establishment of supplies under Government control.

The opening of the Panama Canal was urged as a further argument for the authority of the navy to produce and refine its own oil. With the more frequent use of the Pacific as a result of this event, the navy petroleum reserves in the Elk Hills and Buena Vista fields of California should be availed of for the increased fuel demands. In addition, prompt steps were recommended for the leasing of oil lands in the Mid-continent fields and for the erection of a refinery to supply the oil-burning vessels on the Atlantic coast. The proposal regarding the establishment of independent sources of fuel oil, it was urged, was consistent with the navy's policy in building some of its own ships, maintaining large industrial navy yards and factories for various supplies. From a practical viewpoint, however, the operation by the Government of petroleum lands primarily for fuel oil may reasonably be involved in elements of uncertainty that are not experienced in other lines of industrial control.

THE BORDENI OIL LANDS, LTD.

Registered on December 13th, by S. P. Pellatt, 32, Britannia Road, Westcliff-on-Sea. Capital, £30,000 in £1 shares. Objects: To carry on the business of dealers in and owners of oilfields and drillers of wells; also to carry on the business of dealers in petrol and all products of crude petroleum. First directors (who are to number not less than two nor more than five) are Sir Charles Follett, Hemyock, Devon, and S. P. Pellatt, 32, Britannia Road, Westcliff-on-Sea. Private company.

THE INTERNATIONAL OIL LANDS, LTD.

Registered on December 13th by M. Beale & Co., 4, London Wall Buildings, E.C. Capital, £100 in £1 shares. Objects: To acquire any petroleum or other oil-bearing lands and to carry on the business of dealers in petroleum and other mineral oils. Minimum cash subscription, seven shares. Signatories: William B. Thorns, 12, Greenwood Gardens, Palmer's Green, N.; F. Thomas Mercer, 7, Linden Grove, Sydenham; R. H. Brett, 38, Hosack Road, Balham, S.W.; R. George Bowyer, 40, Clareville Street, Kensington, S.W.; W. Skinner, 2, Church Street, Lee, S.E.; A. N. Gray, 8, Cromartie Road, Hornsey Rise, N.; and Thomas Whiteley, “Denewood,” Potter's Bar. First directors have not been appointed. Registered office, 4, London Wall Buildings, E.C.

CLASSIFIED IMPORTS INTO THE UNITED KINGDOM UP TO DECEMBER 8th, 1913.

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IN GALLONS.

COUNTRY.	ILLUMINATING.		LUBRICATING.		RESIDUALS.		GAS OIL (Solar).		BENZINE.		FUEL OIL.		OTHER DESCRIPTIONS.		TOTALS.	
	Since Dec. 8.	From Jan. 1.	Since Dec. 8.	From Jan. 1.	Since Dec. 8.	From Jan. 1.	Since Dec. 8.	From Jan. 1.	Since Dec. 8.	From Jan. 1.	Since Dec. 8.	From Jan. 1.	Since Dec. 8.	From Jan. 1.	Since Dec. 8.	From Jan. 1.
Belgium ..	—	250	9,080	808,643	—	—	—	—	13,320	72,310	—	120	—	5,070	22,400	797,393
Canada ..	—	—	—	9,820	—	65,660	—	—	—	—	—	—	—	—	—	79,480
Dutch Indies ..	—	70	—	—	—	—	—	—	—	40,303,050	—	407,047	—	—	—	40,716,167
Germany ..	8,980	230,520	31,150	3,136,010	—	600	—	211,810	—	651,640	—	800	—	4,610	40,130	4,535,990
Holland ..	—	—	140	10,480	—	—	—	—	5,000	7,359,340	—	—	—	590	5,440	7,370,410
Mexico ..	—	5,753,800	—	—	—	—	—	1,038,280	—	1,528,800	—	12,812,160	—	—	—	21,133,040
Roumania ..	1,720,000	20,712,357	—	340,060	—	—	—	1,150,000	—	5,802,950	—	9,352,540	—	—	1,720,000	37,357,907
Russia ..	—	9,844,560	12,290	12,905,501	7,480	520,870	—	—	—	11,889,350	—	—	—	—	19,770	35,160,281
U.S.A. ..	4,811,440	114,913,227	487,810	44,813,254	—	231,755	2,053,390	62,160,510	—	23,706,880	1,034,220	7,701,550	11,950	915,195	8,398,810	254,442,371
Other Countries	—	80	6,040	154,510	—	480	—	—	—	4,850,240	—	62,870	—	1,105,460	6,040	6,182,640
	6,540,420	151,454,864	546,810	62,378,278	7,480	823,365	2,053,390	64,560,600	18,320	96,179,560	1,034,220	30,337,087	11,950	2,030,925	10,212,590	407,775,679

NOTES FROM THE OILFIELDS.

AMERICAN.

More Californian Oil Lands Withdrawn.—The Government has withdrawn nearly 50,000 acres of presumably oil lands in the Sunset and Belridge and Lost Hills districts of California.

Another Good Well in the Electra Field.—The Electra field, which has lately been furnishing exceptionally fine producing wells, has just added another gusher to its list. This is the Corsicana Petroleum Company's well No. 20, which is now giving 1,000 barrels daily.

The Inter-State Oil Company.—Under this title a new company has been formed for the purpose of operating a portion of the rich Maricopa field in California, which formerly belonged to the Pentland Petroleum Company. The property is now under active development by means of rotary drills.

The California Midway Oil Company.—At the annual meeting of this company, recently held in Los Angeles, it was stated that the company's crude oil output for the year had amounted to 62,000 barrels. The income was slightly under the operating expenses.

An Expensive Well.—There is one well (No. 2) on the Santa Fe's property, in the Midway field of California, which has so far cost no less than \$265,000. The greatest difficulty met with was water, but when this was overcome other troubles were encountered, and altogether the well has been in drilling for several years. It is close to some of the Standard Company's oil gushers.

Activity in the Texas Fields.—The Panhandle field, in Northern Texas, is now showing more real activity than at any time since the field was first discovered. Operators are commencing to have more faith in the capability of the region to produce profitable wells, and it is easy to obtain capital for development purposes.

Important Standard Contract.—It is reported upon reliable authority that the Standard Oil Company has made a contract with the Monte Cristo Oil Company for 400,000 barrels of the heavy oil it has in storage on its property in the Kern River field, and also a contract to take the output of the same company from its Midway and Kern River properties for a period of two years.

The Texas and Louisiana Fields.—The crude oil output of these two fields for October show a decided increase over the production for the previous month. The Texas field produced a total output of 1,394,000 barrels, or an increase over September of about 90,000 barrels, while the Louisiana field, with a production of 1,100,000 barrels, was approximately 40,000 barrels over the previous month's figures.

The Situation in Calgary.—There is evidence that the recent boom in promising oil lands near Calgary, Canada, is practically over, for things are now assuming their normal character. Drilling at the Dingman and Segur wells is being continued, but up to the present there have been no further reports of additional discoveries. Among the new companies formed for developing the field may be mentioned the Western Prairies Oil Development Company, with a capital of \$250,000; the Marine Oil Products Company, with a capital of \$500,000; the Rabbit Foot Oil and Gas Company, with a similar capital; the Golden West Oil and Gas Syndicate; the Lucky Mary Oil and Gas Company, and the Scottish Oil Company.

RUSSIAN.

Terski Siezd.—On December 2nd the nineteenth siezd of the Terski petroleum producers took place at Grosny.

Increase in the Per Pood Tax.—The military administration has decided to increase the per pood tax for oil produced on the areas of the Caucasian Kazak military from $\frac{1}{2}$ to $\frac{1}{3}$ copee.

The Thirty-eighth Siezd of the Mining Industry.—The thirty-eighth siezd of the mining industry took place on December 10th at Kharkov, under the chairmanship of the chief mining engineer of South Russia.

The Budget of the Baku Siezd for 1914. The budget of the Baku Siezd for 1914 has now been published. The estimated income amounts to 2,550,137 roubles, while the expenses amount to 2,736,891 roubles, leaving a deficit of 186,754 roubles.

New Petroliferous Plots on the Apsheron Peninsula.—The new petroliferous plots on the Apsheron Peninsula have

finally been distributed among various producers. Twenty-six plots were allotted, and nine plots were left over as no demands were made for them.

Good News from Grosny.—The first well bored on the old areas is now completed. It is situated at a distance of 2,555 ft. to the south from the axis of the anticline on plot No. 68 of the North Caucasian Company, and has a depth of 3,304 ft. From this depth a spouter has broken out, giving a production from the sixth stratum of 30,000 poods of oil a day.

Baku Geological Bureau.—In view of the intention of the Council of the Siezd of the Baku petroleum producers to open a geological bureau in Baku, the Russian Geological Bureau at Petersburg has offered the council the services of their best geologists. The Baku Geological Bureau will be especially useful in fighting the inundation of the old petroliferous areas.

Maikop Production during October.—The production of petroleum on the Maikop oilfields during October amounted to 380,972 poods. This production was obtained from 149 wells, of depths varying from 130 to 1,840 ft., and diameters of 4 to 14 ins. The maximum production has been obtained by the Black Sea Oilfields (122,643 poods) and by the Maikop Premier Oil Company (70,791 poods).

Mexican Oil for the Railways.—Over 1,500,000 poods of Mexican oil ordered by the Trans-Caucasian railways arrived at Batoum on November 15th. Accurate chemical analysis and a trial burning of the fuel in engines and under boilers has been made, and the results have proved very good. The committee has come to the conclusion that American oil is not inferior to the Baku fuel as regards its calorific value.

Special Committee for the Construction of Internal-Combustion-Engineered Vessels.—The Ministry of Trade and Industry has formed a committee for a thorough study of and investigation into the business of constructing vessels with internal-combustion engines. The committee has been formed under the chairmanship of Professor Bikoff, and will elaborate an exhaustive programme of measures necessary for the development and construction of internal-combustion-engineered vessels to be used in the Russian Navy and commercial fleet.

ROUMANIAN.

Production.—The general production is maintained at a satisfactory level, and owing to new wells having struck petroliferous strata, the general production will, no doubt, considerably increase.

The Steaua-Romana.—The production of this company during the past week averaged 1,062 tons a day, of which 531 tons were obtained at Campina, and 304 tons at Policiori.

Romana-Americana.—The average daily production of this company is now 1,060 tons, of which 1,005 tons are obtained at Moreni.

Prices.—The prices of crude oil are very firm, as there is very little on the market. As this small quantity is energetically competed for by the refiners, the tendency will continue to be firm for some time to come.

Astra-Romana.—The production of this company during the past week averaged 1,216 tons a day, of which 851 tons were obtained at Stavropoleos, 241 tons at Bana, 43 tons at Campina, 78 tons at Filipeshiti, and the remainder at Baicoi and Glodeni.

November Production.—The production of petroleum by firms adopting the new style during November was:—Astra-Romana, 33,440 tons; Romana-Americana, 28,560 tons; Orion, 10,159 tons; Nafta, 2,758 tons; International, 3,742 tons; Anglo-Roumanian Petroleum Company, 1,800 tons; Traian-Roumanian Oil Company 1,432 tons; Aquila Franco-Romana, 1,246 tons.

Well No. 22 of the Astra-Romana, at Bana-Moreni.—This well, which struck oil at the end of February, 1913, was at its commencement giving, by very violent eruptions, 350 to 400 tons a day, which have caused the destruction of the column. The instrumentation of the well is now completed, and since the 7th of this month it has yielded extraordinary powerful eruptions, bringing in a daily production to the value of 350,000 francs. The total production of the Astra-Romana for the year may be estimated at 450,000 tons.

THE SITUATION IN GALICIA.

THE high prices for crude oil now ruling in Galicia, the impossibility of the Galician petroleum production to satisfy all the demands of the Austrian petroleum refiners, and at the same time the total absence of any hopes for an increased production in the near future, as well as the continuous decrease in the reserves, which reserves may now last only another seven or eight months, are all tending to bring about a further increase in prices. On the other hand there is scarcely any reliance to be placed on the import of crude oil from Roumania, as the Roumanian refiners prefer to export not crude oil but refined products. Thus the situation created in the Galician petroleum industry has anything but a promising outlook.

The working capacity of the Austrian and Hungarian refineries—with the exception of the State refinery at Drohobycz—is estimated at 1,700,000 tons a year, but the refineries are far from being able to make such an output. During the last three years the refineries have treated 1,160,000 tons, 1,110,000 tons and 1,280,000 tons a year respectively.

The home consumption of petroleum products during the same three years amounted approximately to 640,000 tons a year, which corresponds with 750,000 tons of crude oil. The export abroad during the same years amounted to 460,000 tons, 420,000 tons, and 630,000 tons respectively, or an average of 500,000 tons a year. Thus the total quantity available for home

consumption and export averaged 1,140,000 tons of products a year, corresponding with 1,330,000 tons of crude oil. As the quantity of crude oil treated by the State refinery at Drohobycz amounts to 80,000 tons a year, the demands of private refineries are not less than 1,250,000 tons a year. To meet these demands there is, in the whole of Galicia, a production of but slightly over 1,050,000 tons a year. The deficient 200,000 tons have until now been obtained from the reserves, but as above stated these are nearly exhausted.

An increase in the production on the Borislav and Tustanowice fields is hardly to be expected. It is true that from time to time new and rich wells are bored there, but the production at the best still remains at the same level. Galicia is, of course, very rich in virgin petroliferous lands, but the development of these will take some considerable time. Meanwhile the consumers have to obtain their oil from other sources. There arises, therefore, very acute competition between buyers of crude oil, with the unavoidable result that the prices are consistently advancing.

Fire at a Kerosene Case Works at Batoum.—A large factory of tins and cases for kerosene has been burned down at Batoum, and great damage has been caused to the works. Over 30,000 cases of oil ready for shipment, and also sufficient material to make up 100,000 cases, were destroyed, and 300 workpeople are thrown out of employment.

The Russian Kuban Industrial & Petroleum Company, LTD.,

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INTERESTING LAUNCHES ON THE TYNE AND WEAR.

The Eagle Oil Transport Company's Tankers—"San Isidoro" and "San Jeronimo"—take the water.

LAST week must certainly live as a red-letter week in the annals not only of the Eagle Oil Transport Company, Ltd., but also in the history of ocean bulk oil transport, for within the short space of twenty-four hours two of the mammoth 15,000 ton tankers of the Eagle Company took the water.

Thus, of the company's new great fleet of twenty vessels, of which ten are of the capacity of over 15,000 tons each, eight of the 9,000 tons type are already off the stocks, and the majority of these are now in commission, while the launches of the "San Isidoro" and the "San Jeronimo" leave but five of the large vessels now under construction. The "San Fraterno," it will be remembered, was the first of the mammoth tankers to take the

Amongst those present at the launch were: Mr. and Mrs. E. H. Mundy, Mr. John Purdy, Mr. F. Miller, Mr. and Mrs. A. W. C. Wheeler, Mr., Mrs. and Miss Smart, Col. R. Saxton White, Mrs. White, Miss White, Mrs. Appleby, Mr. Edwin L. Orde, Mr. S. Hunter, Mr. D. Myles, Mr. D. R. MacDonald, Mr. Gray, Captain Cox (marine adviser to the Eagle Oil Transport Co., Ltd.), Mr. E. S. White, Captain and Mrs. Frith, Mr. and Mrs. T. Baird, Mr. and Mrs. Geo. Baird, Mr. and Mrs. R. Baird, Mrs. A. Douie, Mr. Shutte, Miss Tait, Mr. T. S. Lute (Lloyd's), Mr. R. Doxford, jun., Mr. Hutchinson (Board of Trade), Mr. E. W. Fraser Smith, and others.

The launch was timed for half-past one, but it was not until shortly after two o'clock that Mrs. Mundy



The Launch Party. Mr. and Mrs. E. H. Mundy are in the centre.

water, being followed shortly afterwards by the "San Gregorio"—the first sister ship. Three weeks ago, the "San Hilario" was launched, and now two other vessels of the same great dimensions are off the slips, and ready to receive their engines.

Last Friday the "San Isidoro" was successfully launched from the Walker yards of Messrs. Sir W. G. Armstrong, Whitworth & Company, Ltd., this being the third of six vessels ordered from the Walker shipyard by the Eagle Oil Transport Company, Ltd., the marketing concern for which is the Anglo-Mexican Petroleum Products Company, Ltd.

The launch, which was the first carried out at the Walker yards by the new hydraulic process, was witnessed by a large company of invited guests, the ceremony being gracefully performed by Mrs. E. H. Mundy, the wife of one of the directors of both the Eagle Oil Transport Company and the Anglo-Mexican Petroleum Products Company, Ltd.

pressed the button, which set the great steamer in motion down the ways, and christened the vessel the "San Isidoro," wishing it God speed. The "San Isidoro" took the water splendidly.

The vessel's dimensions are as follows:—Length overall, 548 ft.; length between perpendiculars, 530 ft.; breadth extreme, 66½ ft.; depth moulded, 41½ ft. to shelter deck. Propelling machinery of the quadruple expansion type will be provided by the North-Eastern Marine Engineering Company, Wallsend. The cylinders are 28½, 41, 58 and 84 ins., with a stroke of 54 ins. Steam will be supplied by four cylindrical boilers, designed for a working pressure of 220 lbs., and arrangements are made for burning liquid fuel. The vessel has been built to Lloyd's highest class on the Isherwood system of longitudinal framing, and has a complete shelter deck. The shelter between deck space will be empty when oil cargoes are carried. The oil is carried in twelve holds, which are divided longitudinally

by an oil-tight bulkhead, and separated from the remainder of the vessel by cofferdams. A central expansion trunk of the usual form is provided between the main and upper decks, and extends for the full length of the lower holds. The spaces at the sides of the main expansion trunk are utilised for carrying oil or fuel, and are provided with separate expansion trunks extending through the shelter between decks. The necessary supply of fuel oil for the boilers is carried in a large cross bunker aft, in a deep tank forward, and at the sides of the main expansion trunk. This arrangement materially simplifies the trimming of the vessel, as the centre of gravity of the ship is not then greatly affected as the fuel is consumed. A large towing winch is fitted aft for towing ocean-going oil barges.

The ventilation throughout is mechanical, and includes large fans and special arrangements to ensure safety in connection with the oil-burning apparatus. In this connection, it should also be noted that the oil-fuel pumps are located in an isolated pump room. The oil pumping installations in these vessels are the largest ever fitted on oil-carrying steamers, and are specially adapted for dealing with heavy oil. The pumps are located in two pump rooms, and an arrangement of heating coils is fitted in the oil holds on the most up-to-date principle. The accommodation is very complete for a vessel of this type, and includes a hospital and cold store room for provisions. The engineers and crew are berthed aft, at the sides of the engine casing. The officers are accommodated in a deckhouse amidships. Mareoni wireless telegraphy installations are provided.

It may here be mentioned that since the year 1885, when Messrs. Sir W. G. Armstrong, Whitworth & Company built the tank steamer "Gluckauf"—which was the first steamer to cross the Atlantic with a cargo of oil in bulk—the company have built 108 tank steamers, having a gross tonnage of 339,878 tons.

After the launch, the guests assembled at the offices of the builders, where light refreshments were served and two interesting presentations were made.

The chair was taken by Colonel R. Saxton White, one of the directors of Sir W. G. Armstrong, Whitworth & Co., Ltd., who asked the company to drink heartily to the success of the "San Isidoro." In doing so, he said that comparing that enormous vessel with the "Gluckauf," the first oil tanker to cross the Atlantic with bulk oil, the latter was 230 ft. in length, and the "San Isidoro" had an increased depth of 75 per cent., and her deadweight cargo capacity would be five times that of the earliest vessel. Her speed was about 25 per cent. greater, and her horse-power $4\frac{1}{2}$ times that of the "Gluckauf." When his firm's present orders were completed, they would have launched 144 tankers of 390,000 gross tonnage, with 498,000 oil capacity, and of 565,600 tons deadweight. The average tonnage worked out at 340 tons gross, the net oil capacity at 4,400 tons, and the deadweight at about 5,000 tons. That resumé of the work done by the firm in the production of steamers for the carrying of oil in bulk represented no mean record. There was, however, one fly in the ointment. That was that he had to express regret that his firm were not launching that day the second of their 15,000 tonners, instead of the first. That

delay had been absolutely due to labour troubles; and not by reason of the firm not having developed its resources to deal promptly with all contracts and to ensure that they should be carried out within the contract date. Unfortunately, during the past two years they had suffered many things in the labour market. They had, first of all, a great shortage of labour, but, worse than that, was the extreme slackness of labour. What was the loss to labour? After all, in producing such a ship as they had seen launched, 90 to 95 per cent. of the total value of the ship represented the cost of labour. Yet with plenty of work their men had been losing—he might say systematically—time to the extent of practically one-third of the working hours of the week. What was the loss to the employer? They might, as they had done in that yard, develop their resources, increase and improve their machinery, and increase their capabilities, yet without the active support of their workmen they could not take advantage of that expansion. Therefore, it was a very serious loss to employers, and he was sure he was only reiterating what had been said on similar occasions—that it was impossible, with labour behaving in the way it had been doing—it was almost impossible for any builder to enter into a contract with any confidence whatever that he could produce the ship within the contract period. That was a most lamentable state for any industry to be in, and the sooner the leaders of labour realised that they had a responsibility to the employer to enable him to carry out his contracts within a reasonable time, the better for all concerned.

On behalf of the builders of the "San Isidoro," Colonel White then asked Mrs. Mundy to accept a silver vase as a memento of the occasion.

Mr. Mundy, in expressing the thanks which Mrs. Mundy and himself felt on that occasion, said there was no doubt that the "San Isidoro" was thereabouts the last word in shipbuilding construction. He was pleased to say that his company had had the unique experience of taking delivery within eighteen months or two years of a fleet of about 27 oil-tank steamers, representing a deadweight tonnage of capacity of 300,000 tons. One of the most marked improvements which had been brought about of late years in connection with oil tankers is not only the increase in their carrying capacities, but in regard to the pumping arrangements. In a recent instance the cargo from a similar-sized tanker to the one they had just launched was discharged by the pumps in eighteen hours. He was afraid that the work of the captains and officers of the ships was becoming more and more arduous, for they had no excuse for stopping long at ports except to clean boilers, and it was the object of the charterers to keep the vessels at sea.

On behalf of the owners of the "San Isidoro," Mr. John Purdy then presented a beautifully designed silver model of an old type of sailing vessel to Mrs. Mundy as a memento of the occasion, and also proposed the toast of "Success to the Firm of Armstrong, Whitworth & Co., Ltd.," which was heartily received, Colonel Sexton White replying.

The remaining toast, "Success to the North-Eastern Marine Engineering Company," submitted by the chairman and responded to by Mr. Summers Hunter, brought the happy proceedings to a close.

The following day—Saturday—the venue of the ceremony was changed from the Tyne to the Wear, for at Messrs. William Doxford & Sons' shipyard at Sunderland the s.s. "San Jeronimo" was launched by Mrs. J. Tanner, wife of the treasurer of Messrs. S. Pearson & Son, Ltd.

The "San Jeronimo" is another of the 15,000-ton tankers for the Eagle Oil Transport, and in structural detail follows the lines adopted in the whole of the other vessels of similar size built or building for the same company. The vessel's length overall is 540 ft., her breadth being 66½ ft., while she has a depth of 34 ft. The construction is on the now well-known Isherwood principle, and the "San Jeronimo" has been built to Lloyd's highest class. Steam power is supplied by four boilers designed for a working pressure of 220 lbs., and the vessel will burn Mexican liquid fuel on the Wallsend system. The cylinders are 28½, 41, 58, and 84 ins., with a 54-inch stroke. The deadweight capacity of the "San Jeronimo" is 15,200 tons. The

to the slips on which the truly majestic oil tanker was resting, and here the photograph reproduced on this page was taken. In addition to Sir T. and Lady Doxford, there were present Mr. and Mrs. R. P. Doxford, Mr. and Mrs. C. D. Doxford, Mr. and Mrs. J. Tanner, Mr. John Purdy (director of the Eagle Oil Transport Company and the Anglo-Mexican Petroleum Products Company), Mr. and Mrs. William Doxford, Mr. L. Holloway (Messrs. S. Pearson & Son), Mr. and Mrs. R. Doxford, Mr. and Mrs. Charles Doxford, Mr. Barringer (Messrs. Jacobs & Barringer), Mr. Bradney (resident engineer for Messrs. Jacobs & Barringer), Mr. T. Hedley, Mr. O. Hedley, Mr. and Mrs. Arthur Doxford, and the representative of the REVIEW.

Mrs. Tanner gracefully performed the ceremony of naming the vessel, expressing the wish that it would have a prosperous career on the world's seas. The "San Jeronimo" then majestically slid down the slips amid the accompaniment of cheers from the assembled guests and a chorus of "Hurrahs" from the ship's



The Launch Party of the "San Jeronimo."

oil tanks are arranged precisely as in the case of the "San Isidoro," which are fully described on the preceding page, while the provision for the crew and officers is also upon the same principle.

Prior to the launch an opportunity was given the guests of inspecting the yards of Messrs. Doxford & Sons, in which, upon the stocks running parallel with those upon which the "San Jeronimo" was built, stood a smaller tank vessel for the Prince line, and which was nearing completion. The narrowness of the Wear at this point is such that the stocks are erected in a manner that the vessels when leaving them take a slanting direction into the water, and it is a fact worthy of being placed on record that the "San Jeronimo" is the largest vessel that has been so far launched from the Wear shipbuilding yards.

Sir Theodore Doxford, head of the great shipbuilding firm of that name, together with Lady Doxford, welcomed the launch party in the company's offices, and after *déjeuner* had been served, the guests proceeded

workers, who lined up at the top of the slips with caps in hand.

The guests then proceeded to partake of afternoon tea at the invitation of the shipbuilders, and here a few brief yet very appropriate speeches were delivered.

Sir Theo. Doxford officiated at the head of the table, and in asking the company to heartily drink to the "Success of the 'San Jeronimo'" said he was proud to tell the company present that the vessel they had seen just take the water so gracefully was the largest and also the heaviest that had yet been built upon that river. The vessel's length was 550 ft., her breadth was over 66 ft., and her launching weight was about 6,000 tons. His firm was very proud of having built such a fine vessel, for he could assure the owners that the workmanship in her was in every way very good. He hoped that the "San Jeronimo" would prove very successful and profitable to her owners. She was the fifth vessel which had been launched for the Eagle Oil Transport Company, which had a capacity of over

15,000 tons, and there were a like number of similar oil-tankers being constructed for them. It was evident, therefore, that the large class of vessels built for the transport of oil in bulk had come to stay. He coupled with the toast the name of Mr. John Purdy, who represented the owners.

The toast having been enthusiastically received,

Mr. John Purdy replied. He said he very much appreciated the hearty manner in which the toast of success to the "San Jeronimo" had been received, and he thanked Sir Theodore Doxford for having coupled his name with it. The Eagle Oil Transport Company were very proud of their vessels, and they had every reason to be so, for the tankers had been built to the highest possible specification, and under the supervision of Messrs. Jacobs & Barringer, their engineers, he knew that only the best work would be allowed to be put into the vessels.

The Chairman then asked the company to receive the toast of the health of Mrs. Tanner. He desired, on behalf of the builders, to express to Mrs. Tanner the honour they felt at her presence that day, and how pleased they were that she had specially come down from London to perform the christening ceremony. On behalf of the builders, therefore, he asked Mrs. Tanner's acceptance of a small memento of the happy occasion.

As Mrs. Tanner's health was being drunk, Sir Theodore handed to Mrs. Tanner an elaborate silver casket suitably inscribed.

Mrs. Tanner suitably acknowledged the gift in a few well-chosen words, mentioning that the occasion was one of the happiest days of her life, and that she felt very proud of having the honour of naming such a magnificent vessel.

Mr. Purdy then, on behalf of the owners—the Eagle Oil Transport Company—said he had great pleasure in asking Mrs. Tanner's acceptance of a souvenir of that

auspicious occasion in the shape of a model of an old battleship, fully rigged. He hoped she would live many years to look upon that memento, which he trusted would be to her a gentle reminder of the time when she sent the "San Jeronimo" down the slips to the oceans of the world.

Mr. Tanner, on behalf of his good lady and himself, acknowledged the presentation. He said he scarcely knew how to thank Mr. Purdy and the other directors of the Eagle Company for their splendid gift. He felt that inasmuch as he would share the present equally with Mrs. Tanner, he had the right to express his thanks for the gifts. He could assure Mr. Purdy that the magnificent ship would be prized, and in years to come he trusted their children would prize it equally. To both Mrs. Tanner and himself it would always be an eloquent reminder of a most pleasant occasion.

Mr. Purdy then proposed the healths of the builders, and in doing so said all the company joined with him in wishing them continued prosperity in their work. They had that day created a record for the Wear, and as time went on he hoped they would create more records.

The Chairman briefly acknowledged the toast.

The remaining toast was that of Messrs. Jacobs & Barringer, who had supervised the construction of the "San Jeronimo." This toast was proposed by Mr. O. Hedley, who said he had every reason to believe that when vessels were constructed under their supervision, they would always give every satisfaction to their owners.

Mr. Barringer, in replying, said that the builders had spared no expense in turning out of their yards a vessel which was second to none. Though the "San Jeronimo" would carry over 15,000 tons of oil, her pumping arrangements were such that when shore facilities allowed, the vessel could be emptied in the short space of fourteen hours.

TRIAL TRIP OF THE S.S. "SAN VALERIO."

THE oil tank steamer "San Valerio," built by Palmers Shipbuilding & Iron Company, Ltd., at their Hebburn yard, to the order of the Eagle Oil Transport Company, Ltd., of London, had her trial at sea on the 12th inst. The vessel, which is 420 feet long and carries about 9,300 tons deadweight, has been built on the Isherwood system of framing, to class 100 A1 Lloyd's Special Survey, for the carriage of oil in bulk, and in accordance with Suez Canal requirements; the steamer has ten pairs of oil compartments with an expansion trunk running the whole length between main and upper decks, with summer tanks arranged for coal or oil fuel at sides; a deep tank for water ballast or oil fuel is fitted under forward cargo hold; a complete oil-pumping installation is fitted throughout, and steam heating coils are arranged in the oil compartments and cross bunkers. The vessel has a straight stem and elliptical stern, and is rigged as a two-masted fore-and-aft schooner; a long poop covers the engine and boiler space, and the poop, bridge, and fore-

castle are connected by means of a fore-and-aft gangway.

Accommodation is provided for captain and officers inside and on top of bridge deck, with Marconi room and chart and wheelhouse above; the engineers are situated in the aft end of poop, the crew being berthed in the fore-castle. The steamer is fitted with quadruple-expansion engines, having cylinders 24 in., 35 in., 50½ in., 73 in. by 51 in. stroke, steam being supplied by three large single-ended boilers arranged for burning oil fuel, and working under forced draught at a pressure of 220 lbs. per square inch.

The trial was successful in every respect, the engines working in a thoroughly satisfactory manner, the contract speed of eleven knots being exceeded.

Captain B. Godfrey-Faussett, R.N., also Captain Cox, Mr. H. Barringer (Messrs. Jacobs & Barringer) were present on behalf of the owner, the builders being represented by Mr. Hewitson Hall, Mr. J. H. Hutchison and Mr. J. W. Reed.

MISCELLANEA.

NEW GASOLINE SPECIFICATIONS FOR THE UNITED STATES NAVY.

THE Navy Department of the United States has issued new specifications to govern the tests which must be made of gasoline before acceptance for use in the navy, and a significant feature of the specifications is that no gasoline extracted from natural gas will be accepted, nor must such extracted gasoline be mixed with any gasoline submitted to the Navy Department for acceptance.

Test samples, consisting of 100 cubic centimetres, will be taken at random, for the purpose of distillation in the Engler apparatus, at a rate of not less than 10 cubic centimetres per minute. These tests must show that the gasoline does not start over in the still below 130 degrees F., 50 per cent. must distill over below 275 degrees, 95 per cent., if called for, below 340 degrees, and 100 per cent. below 360 degrees F., which tests, it is said, will exclude all but a few of the commercial gasolines made to-day.

A NEW OILFIELD IN KANSAS.

THE REVIEW understands that Arkansas City promises to become one of the chief centres for oil development in the Kansas field. The new territory is in the Newkirk district, along the Arkansas River, and though some miles from Arkansas City itself, this place is now the centre of all activity. There has been drilling in these quarters for many years; in fact, the first well was drilled within the city limits over twenty-five years ago. Recent drilling operations have proved very successful at several spots and a large number of wells have been brought in. At present over twenty wells are being drilled, and in many cases shows of oil have been encountered. This oil is of a bright green colour and is of a high-grade character.

THE WORLD'S FASTEST OIL-BURNING VESSEL.

THE world's fastest sea-going vessel has recently performed its trial runs, says a Berlin correspondent. According to German press notices, the Russian torpedo-destroyer Novik, built in the shipyard of Messrs. Vulcan-Werke, in connection with the official trial on the measured mile, with her trial load, has reached a mean speed of 37 knots, the maximum speed being 37.3 knots per hour. Some days afterwards the vessel underwent the continuous six hours' trial provided by contract. The speed prescribed for the trial, viz., 36 knots, was not only reached, but exceeded considerably, a mean speed of 36.2 knots throughout the six hours, and a mean speed of 36.8 knots during the last three hours being obtained. The engines and boilers, in spite of these high speeds, never were pushed to the limits of their capacity, and no smoke issued from the funnels of the boilers, which were fired exclusively with liquid fuel. The Novik is a turbine-propelled vessel.

CALIFORNIAN OIL PRODUCTION DURING OCTOBER.

THE total crude oil output of the Californian fields during October amounted to approximately 8,500,000 barrels, thus being half a million barrels short of the output for September. During the month the consumption also declined, and the output was therefore sufficient to meet all demands and allow a little to go into storage. The output was obtained from 5,800 wells, of which the largest number—1,400—were in the Kern River fields. The Sunset-Midway field was by far the largest producer, its yield for the month being 3,450,000 barrels from 1,200 wells. The Coalinga field also held up very well, its 800 odd producing wells giving a production of over 1,500,000 barrels for the month.

MEXICAN BITUMEN FOR ROAD CONSTRUCTION.

THE importance of the road question is such that to-day every road authority is regarding it as one of the most serious problems for solution. During the past few years there has undoubtedly been considerable progress made in the matter of the improvement of our highways, an improvement which has been highly desirable in view of the continually increasing motor traffic. The chief end always in view is the making of a road surface which, while minimising if not totally preventing the dust nuisance, shall have good wearing qualities. Of the several materials now employed by up-to-date authorities, Mexphalte is to-day the most popular, and deservedly so, since it is the pure Mexican bitumen, and its cementing value, as determined by the well-known test of ductility, is higher than any other bitumen on the market. Mexphalte, which is a product of the Mexican Eagle Oil Company, is now being largely adopted in France, Germany, and other parts of the Continent, while in this country it has already proved itself an ideal material, being waterproof and resilient, and entirely unaffected by variations of temperature and climate. Highways Construction, Ltd., a company formed for the construction of the latest types of asphalt macadam roads, has just issued an excellent handbook upon the subject, which should be carefully perused by all road authorities. It is a splendidly got-up work, with numerous illustrations, and reflects great credit upon those responsible for its production. It is entitled "Voidless Asphalt Macadam and Asphalt Paving," and can be obtained for the asking.

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THE OILFIELDS FINANCE CORPORATION, LTD.

EXCEEDINGLY BRIGHT OUTLOOK.

THE first ordinary general meeting of the Oilfields Finance Corporation, Ltd., was held yesterday (Friday) week, at River Plate House, Finsbury Circus, E.C., Mr. Richard W. Barnett (chairman of the company) presiding.

The Secretary (Mr. J. W. Creasser, F.C.I.S.) having read the notice convening the meeting and the report of the auditors,

The Chairman rose to move the adoption of the report and balance sheet. In doing so, he said: I do not propose to weary you with a long speech, because, as you know, there is an old proverb which says, "Good wine needs no bush." I venture to think that a company associated with petroleum finance, which has succeeded in such a year as we have gone through in making a net profit of £40,749 on an issued capital of £370,000, does not need much said about it either in the way of praise or in that of apology. The dividend of 6 per cent. that we are recommending to you, and we are only dividing about one-half of the profits of the year, is, I think you will agree with me, a satisfactory one. It is really even better than it looks, for the original shareholders in the old Oilfields Finance Corporation are getting, not 6 per cent. on their investment, but 10 per cent. There is a disposable balance of £40,749, and we recommend you to employ that sum, first of all, in writing off the whole of the preliminary expenses. This writing off might have been spread over two or three years; but I think you will agree that it is better for a finance company to write off these expenses out of its first profits. We carry £10,000 to the reserve fund, and recommend a dividend of 6 per cent., which will require £22,200. These recommendations will leave to be carried forward to the next year's accounts the sum of £3,887. I will now turn to paragraph 3 of the report, which deals briefly with the amalgamation of Roumanian petroleum companies, which was carried out under our auspices. As perhaps the largest shareholders in the Roumanian Consolidated, and as the company responsible for the amalgamation, we take a legitimate pride in the success of our progeny. We take, as it were, a parental pride in that great enterprise, and we look to its future with every confidence. In a further paragraph of the report we deal with the important interests of our company in Southern Russia. An enormous amount of work has been done during the past year in the consolidation of these interests. First of all, we had to get our lands reported upon, and we secured the services of an eminent Russian geologist (Mr. Adiassewich, the technical adviser of the Baku Russian Petroleum Company), who has made a very careful examination of our lands, and reported favourably upon them. Moreover, there were titles to be investigated and verified, and mortgages to be paid off on some of the freehold properties, and we had to get possession of the lands. These details, which were very complex and difficult, occupied the time of your directors to a large extent during the past year. I am glad to be able to tell you, however, that the preliminary stage is now over, and that we have got possession of our properties. We are now in a position to deal with them, and I hope that when I have the pleasure of meeting you at our next annual meeting I shall be able to report that they have been dealt with to the advantage of this company. I will now turn to the reconstruction of the Bibi-Eibat Petroleum Company. It was a successful piece of underwriting. We guaranteed £100,000 of fresh capital, and we were not called upon under our guarantee. This leads me to a point on which I have received a great many letters from shareholders—namely, the question of underwriting. Shareholders write to us from time to time and ask whether it is not possible for them individually to participate in the underwriting transactions of the corporation. The directors have given a good deal of consideration to this matter, but it was a difficult question to decide, because underwriting is often done in a hurry, and issues are frequently made almost at a moment's notice. You will understand that we do not want to favour one shareholder

more than another, and we feel that we cannot write to half a dozen shareholders offering them a participation in the underwriting unless we are in a position to make a similar offer all round. Therefore I have evolved this plan, which I will submit to you for your consideration. If any shareholder would like to participate, to any reasonable extent, in the underwriting of propositions with which the Oilfields Finance Corporation may deal, he should communicate with our secretary, and state that he would like to be placed on the underwriting list, say, for 1,000, or, perhaps, 500 shares, as the case may be.

I will now deal with the balance sheet and the accounts, and in this connection there are a few questions which I have received from shareholders with which I should like to deal. The first item in the balance sheet that I shall refer to is that of investments, etc., which are taken at market price or cost, and appear at £396,525. Several shareholders have asked us what is the meaning of the phrase "Market price or cost." Well, it means exactly what it says. Where there was a market price on June 30th, 1913, that market price has been taken, and where there was not as yet a market price, the security figures at cost. I can amplify that by saying that of the £396,525 about three-quarters was represented on June 30th, 1913, by securities—stocks and shares and debentures—readily marketable on the Stock Exchange, and the other quarter was represented by securities not yet so marketable, but which the directors have every reason to believe will be worth considerably more than the figures at which they stand in our books. For a finance company this is a very satisfactory statement to be able to make, and I will say further, as regards both of those classes of securities, that they are worth more to-day than they were worth on June 30th, 1913. You may now wish to know something about the future of the company. Obviously that future is largely wrapped up with the future of the petroleum industry, because we are as a company peculiarly identified with petroleum finance. Speaking for myself, and I think also for my colleagues, I may say that we have no misgivings about the future of the petroleum industry. Whatever the future may have in store, it is perfectly clear that for many years to come there will be an increasing demand for crude oil and for the refined products of oil. I now propose that the report and accounts be received and adopted.

Mr. W. W. Rutherford, M.P. (deputy-chairman), seconded the motion.

Mr. Harry Foster said he would like, on behalf of the shareholders, to congratulate the directors on the eminently satisfactory statement of accounts submitted to them on that occasion. He thought that two items on the credit side of the accounts, which made up the profits, spoke for themselves, and having regard to the times they had gone through, the results achieved, particularly when they knew on what basis the valuation of the assets had been made, must be satisfactory to all of them.

The resolution was carried unanimously.

The Chairman next moved: "That the meeting, as recommended by the directors, hereby sanctions the payment of a dividend of 6 per cent. for the period ended June 30th, 1913, to all members who are on the register on the 31st inst."

The motion was seconded by Sir J. S. Harmood-Banner, M.P., and carried.

The Chairman next moved: "That of the balance of £40,749. 3s. 4d. standing to the credit of the profit and loss account, the sum of £4,661. 5s. 11d. be applied to writing off the preliminary expenses, that the sum of £10,000 be carried to the reserve fund, and that the balance of £3,887. 5s. 5d. be carried forward."

Mr. J. S. Smith-Winby seconded, and the motion was carried.

The retiring directors (Sir J. S. Harmood-Banner and Mr. Alfred Rutherford) and the auditors (Messrs. T. G. Haward & Co.) having been re-elected, a hearty vote of thanks was accorded to the chairman and directors, and the meeting ended.

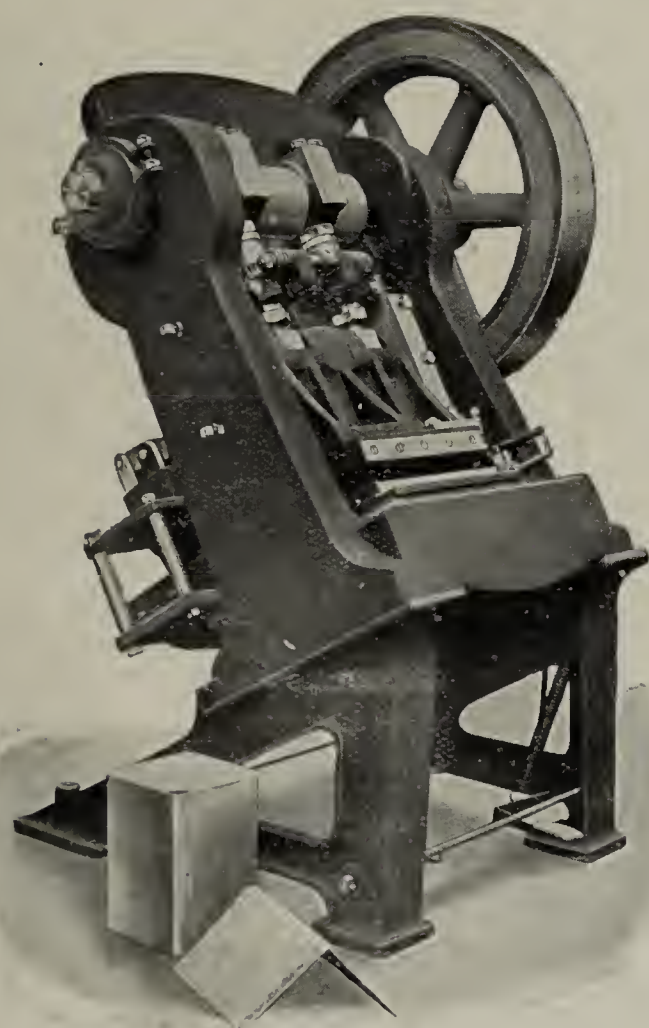
PETROLEUM IMPORTS INTO THE UNITED KINGDOM DURING NOVEMBER.

THE SHIPMENTS INTO VARIOUS PORTS.

THE various shipments of petroleum products into the U.K. ports during November are given in the following

table. The total imports for the month were 37,910,895 gallons, or 5,323,455 gallons less than in October.

PORT.	Illuminating.	Lubricating.	Residuals.	Gas Oil (Solar).	Benzine.	Fuel Oil.	Other Descriptions.
Aberdeen	—	2,720	—	—	—	—	—
Barrow	359,360	—	—	—	1,896,610	107,550	—
Belfast	637,150	2,160	—	—	—	757,640	—
Boston	—	990	—	—	—	—	—
Bristol	2,008,360	296,620	400	1,097,800	437,000	—	160
Cardiff	—	240	—	—	—	—	—
Cork	—	200	—	—	—	—	—
Dublin	1,195,400	—	—	—	—	—	—
Dundee	—	2,030	—	—	—	—	—
Glasgow	—	263,830	—	—	—	—	—
Gloucester	—	3,240	—	—	—	—	—
Goole	—	870	—	—	—	—	—
Grangemouth	—	2,560	—	—	—	—	—
Grimsby	—	3,380	—	—	—	—	—
Harwich	—	6,230	—	—	—	—	—
Hull	1,649,500	111,790	—	—	—	—	—
Leith	6,570	46,610	—	—	—	—	4,000
Liverpool	4,100	2,209,594	154,185	1,336,340	—	—	66,440
London	6,146,980	1,780,316	—	1,899,660	6,679,630	400	1,108,880
Manchester	2,119,610	882,501	—	2,020,000	—	172,740	3,340
Newcastle	—	26,070	—	—	—	—	—
Newport	—	2,220	—	—	—	—	—
Portsmouth	—	70	—	—	—	—	—
Southampton	336,000	—	—	—	—	—	—
Sunderland	—	—	—	52,100	—	—	—
Swansea	—	10,750	—	—	—	—	—
Totals	14,463,030	5,654,990	154,585	6,405,900	9,013,240	1,038,330	1,180,820



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HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & Co, 61, St. Mary Axe, E.C.

December 19th, 1913.

There are no further alterations in the prices of Refined Petroleum, which are as follows:—Roumanian, 8d.; Russian, 8½d.; Galician, 8½d.; American, 8½d.; American Water White, 9½d.

LUBRICATING OILS

Official prices are unaltered as under:—

No. 1 Russian, £12. 2s. 6d.

No. 2 Russian, £10. 17s. 6d.

American pale, from £9. 12s. 6d.

American dark, from £11. 2s. 6d.

American filtered cylinder, from £13. 2s. 6d.

FUEL OIL

is quoted 70s. per ton, in bulk, ex wharf.

GREASE-MAKING OIL

The market price is 80s. per ton, in bulk, ex wharf.

MOTOR SPIRIT

is quoted retail in London 1s. 9d. per gallon for the best quality and 1s. 7d. per gallon for the second quality.

TURPENTINE.

The American Turpentine market is very steady, the quotation for spot, is 32s.; January April, 32s. 7½d.; May/August, 33s. 7½d.

LIVERPOOL.

December 19th.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8½d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well.

INDIA.

BOMBAY, November 22nd.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Bazaar Rates—Delivery charges extra.	Rs.	a.	p.
Kerosene Oil "Waterlily," per case of two tins	...	5	4	0
" Firefly, per case of two tins	...	4	15	0
Chukker, per two tins	...	4	5	0
" " per 8 gallons	...	3	11	0
" Victoria, per two tins	...	3	11	6
" " per 8 gallons	...	3	1	6
Burmah Wax, per pound, 1st quality	...	0	4	0
" " 2nd quality	...	0	3	0
" Candles, per pound	...	0	4	0

AMERICA.

NEW YORK, December 18th.

Refined, in cases, is quoted at 11.25; Standard White, 8.75; Credit balances, 2.50.

PHILADELPHIA, December 18th

Standard White is quoted at 8.75.

GERMANY.

HAMBURG, December 16th.

The petroleum prices remain unchanged. The demand for kerosene begins to be lively, that for benzine decreasing. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, December 16th.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 41½–41¾ copecs per pood spot. Kerosene, 51–52 copecs. Residuals, 39¼–40 copecs.

ROUMANIA. December 16th.

The export of petroleum is for the moment very restricted. The latest prices are:—

	Francs.
Crude oil from different fields, including pipe-line charges, per 100 kgs.	8.00–8.15
" " " Moreni	7.00–8.00
" " " Tzintea	5.50–6.25
" " " Policiori	5.00
" " " Bana	9.50–10.80
Paraffin	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	26.00–26.50
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	18.00–18.50
Residuals, f.o.b. Constanza	...	7.00–7.50
Gas Oil	...	8.00

AUSTRIA. December 16th.

Crude oil is quoted 8.58 kronen spot. Kerosene, 29½–30 kronen at Oderberg. Benzine, 690/700, 45 kronen; 700/710, 43 kronen, at Oderberg. Gas oil, 7.50 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, London, E.C., report under date December 18th as follows:—

The market is quiet, with prices unchanged at last week's rates, as under:—

1c 18¾ × 14	124 sheets	110 lbs.	13/3 to 13/4½ per box.
1c 20 × 10	225 "	156 "	18/7½ " 18/9 "

F.o.b. Swansea. Tin lining and iron hooping extra.

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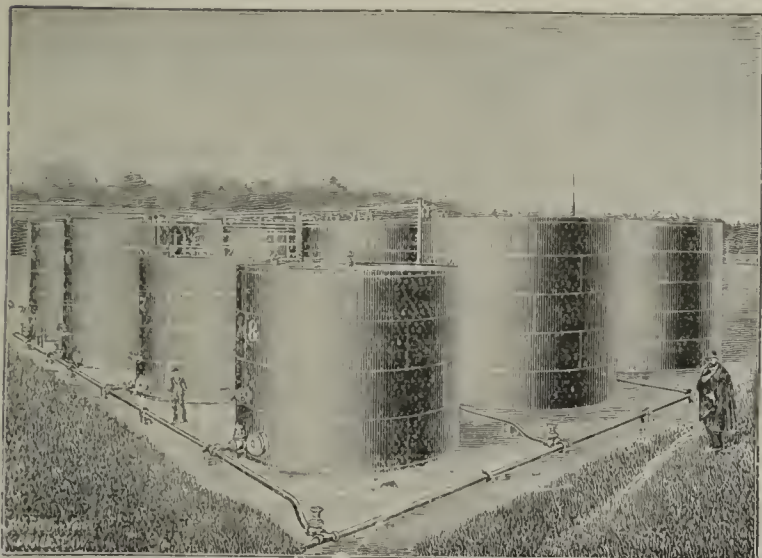
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DATE.	PORT AND IMPORTERS.	DESCRIP- TION.	No. OF GALS.	PORT WHENCE.	DATE.	BRISTOL—	...	Lub.	GALS.	WHENCE.
Dec.	LONDON—				15	Colthurst & Harding	...	Lub.	1,000	New York
9	Asiatic Petroleum Co.	... Benzine	5,000	Rotterdam	15	Ford & Canning	...	"	21,690	"
9	Motor Petrol Association	... "	3,900	Brussels		GOOLE—				
9	Port Authority	... Lub.	2,180	Hamburg	8	Goole Steamship Co.	...	"	600	Hamburg
9	A. H. Gilbert & Co.	... "	60	"		GLOUCESTER—				
9	Langley, Smith & Co.	... "	23,270	New York	12	Bristol Steam Navig. Co.	...	"	880	"
9	S. Capon	... "	4,000	"		HARWICH—				
9	Anglo-American Oil Co.	... Gas	2,053,390	"	9	Great Eastern Railway	...	"	30	Antwerp
9	"	... Lamp	2,513,350	"	9	"	...	"	800	"
9	Mordaunt Bros.	... Lub.	2,700	Philadel.	12	"	...	"	360	"
10	J. Thompson...	... "	1,470	Riga	12	"	...	"	180	"
10	Schliemann Oil, etc., Co.	... Lub. Oil and Gr.	2,400	Hamburg		HULL—				
10	Port Authority	... Lub.	420	Antwerp	9	Wilson's & N. E. Railway	...	"	800	Hamburg
10	Worthington & Boler	... "	8,600	New York	11	"	...	"	320	"
10	Scott's Wharf	... "	2,500	"	11	"	...	"	1,480	Antwerp
10	Bowring Petroleum Co.	... "	6,550	Philadel.	11	T. Wilson, Sons & Co.	...	"	1,200	Riga
10	Anglo-American Oil Co.	... "	47,000	"	11	"	...	"	12,000	New York
10	Mercantile Lighterage Co.	... "	7,800	"	12	W. Gilyott & Co.	...	"	41,200	"
10	Pinchin, Johnson & Co.	... "	840	"	15	Wilson's & N. E. Railway	...	"	1,200	Antwerp
11	Hanseatic Maritime Agency	... "	50	Bremen		MANCHESTER—				
11	"	... "	330	"	9	J. Bentley & Co.	...	"	2,050	Hamburg
11	Snowdon, Sons & Co.	... Lub. Gr.	1,380	Hamburg	9	Crew, Levick & Co.	...	"	8,460	Philadel.
11	A. Duckham & Co.	... Lub.	1,000	Antwerp	9	"	...	M. Colza	1,240	"
11	Grindley & Co.	... "	8,000	New York	9	Anglo-American Oil Co.	...	Lub.	14,350	"
11	Lunham & Moore	... "	1,650	"	10	"	...	Fuel	669,830	Baton Rouge
11	Anglo-American Oil Co.	... "	6,000	"	10	J. T. Fletcher & Co.	...	Lub.	120	Antwerp
11	Lubricating & Fuel Oils Co.	... "	3,030	N. Orleans	11	"	...	Lub. Gr.	680	"
11	Motor Petrol Association	... Benzine	3,890	Brussels	11	British Petroleum Co.	...	Lamp	685,000	Kustendje
12	Wilkinson, Haywood & Clarke	... Lub.	1,200	Philadel.	12	F. Schofield & Co.	...	Lub.	3,530	Philadel.
12	Port Authority	... "	220	Antwerp	13	D. Owen & Son	...	M. Colza	2,660	"
12	British and Foreign Wharf	... "	70	"	15	Vacuum Oil Co.	...	Lub.	2,090	"
13	Port Authority	... "	400	Hamburg	15	Diamond Lubricating Co.	...	"	2,570	"
13	"	... "	1,360	"	15	"	...	Lub. Gr.	2,750	New York
13	"	... "	3,140	"	15	Liverpool Storage Co.	...	Lub.	9,230	"
13	Mercantile Lighterage Co.	... "	5,400	New York	15	W. Hodgson & Co.	...	Lub. Gr.	370	"
15	Bowring Petroleum Co.	... "	5,360	Philadel.	15	Anglo-American Oil Co.	...	Lub.	38,480	"
15	Snowdon, Sons & Co.	... "	4,940	Austria-Hung	15	W. W. Jones, Dooly & Co.	...	"	3,000	"
15	"	... "	420	Copenhagen	15	Worthington & Boler	...	"	1,050	"
15	L. Freeland	... "	80	Antwerp		NEWCASTLE—				
15	Motor Petrol Association	... Benzine	5,530	Brussels	10	P. H. Matthiessen & Co.	...	"	520	Bergen
	LIVERPOOL—				10	Tyne-Tees Steamship Co.	...	"	240	Antwerp
9	Anglo-American Oil Co.	... Lub.	32,160	New York	10	"	...	"	40	Hamburg
9	Worthington & Boler	... "	3,080	"	13	"	...	"	240	"
9	D. Owen & Son	... "	4,550	"		NEWPORT—				
9	W. B. Dick & Co.	... "	6,800	"	13	M. Jones Bros.	...	"	1,300	Antwerp
9	White Star Line	... "	1,000	"		SUNDERLAND—				
9	Huxley & Co.	... "	1,080	"	15	Anglo-American Oil Co.	...	Fuel	364,390	New York
9	Liverpool Warehousing Co.	... "	1,000	"		SWANSEA—				
9	A. Hopps & Sons	... "	8,060	Baltimore	10	Burgess & Co.	...	Lub. Gr.	100	Hamburg
9	F. Guest	... Lub. Gr.	240	Hamburg	13	M. Jones Bros.	...	Lub.	160	Bergen
9	C. W. Field	... Lub.	400	Antwerp		ABERDEEN—				
10	Meade-King, Robinson & Co.	... "	6,000	Philadel.	9	R. C. Reid & Co.	...	Lub. Oil and Gr.	2,040	Hamburg
10	"	... "	7,800	Baltimore		DUNDEE—				
10	"	... "	9,620	Batoum	11	D. Alexander & Sons	...	Lub.	40	"
10	"	... Lub. Resid.	7,480	"		GLASGOW—				
10	Burnaby & Chantrell	... Lub. Gr.	5,600	Baltimore	9	Clyde Shipping Co.	...	"	400	Antwerp
10	"	... M. Colza	2,850	"	9	"	...	Lub. Gr.	60	"
10	Liverpool Storage Co.	... Lub.	800	New York			...	Bricks		
10	Huxley & Co.	... "	1,090	"	15	Anchor Line	...	Lub.	32,640	New York
10	J. T. Fletcher & Co.	... "	40	Antwerp		LEITH—				
10	Pickford's	... Lub. Oil and Gr.	370	Hamburg	9	Jas. Currie & Co.	...	"	6,800	Hamburg
11	D. Currie & Co.	... Lub.	800	"	12	"	...	"	2,800	"
11	F. Guest	... "	2,600	Baltimore	12	W. G. Yool & Co.	...	Lamp	4,360	"
11	Meade-King, Robinson & Co.	... M. Colza	5,200	"	13	"	...	"	4,360	"
11	T. Wilson, Sons & Co.	... Lub.	40	Amsterdam	13	Jas. Currie & Co.	...	"	120	"
11	"	... "	400	Rotterdam		CORK—				
11	Bowring Petroleum Co.	... "	4,330	Philadel.	10	P. Murphy & Co.	...	"	140	"
12	Pickford's	... Lub. Oil and Paste	460	Hamburg						
12	F. Schofield & Co.	... Lub.	2,600	Baltimore		Deduct—			10,212,300	
12	Huxley & Co.	... "	40	Hamburg		LONDON—				
13	Worthington & Boler	... "	4,000	New York	19/9	A. Duckham & Co.	...	Lub.	1,600	Antwerp
15	Anglo-American Oil Co.	... "	23,000	"	22/10	Lubricating & Fuel Oils Co.	...	"	27,680	Philadel.
15	Vacuum Oil Co.	... "	13,200	"	22/11	"	...	"	100,000	Kustendje
15	"	... Lub. Gr.	240	"		HULL—				
15	White Star Line	... Lub.	2,900	"	21/11	T. Wilson, Sons & Co.	...	"	4,200	New York
	BRISTOL—					BELFAST—				
9	Colthurst & Harding	... "	240	Hamburg	10/11	Anglo-American Oil Co.	...	Fuel	86,430	Baton Rouge
9	British Petroleum Co.	... Lamp	1,035,000	Kustendje	14/11	"	...	Lamp	10,730	New York
10	Anglo-American Oil Co.	... "	2,293,000	Sabine		CARDIFF—				
13	W. Grimes	... Lub. Gr.	970	Hamburg	3/12	Frazer & Co.	...	Gasoline	270	Rotterdam
13	C. Hill & Sons	... Lub.	18,660	New York						
13	H. Pritchard & Co.	... "	8,950	"						

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Galizische Karpathen Petroleum-Aktiengesellschaft,
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Oil Well Engineering Co., Ltd., 57, Bishopsgate, E.C.
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London, E.C.
Thom, John M., Patricroft, near Manchester.
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BUILDINGS.

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Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.
Homelight Oil Co., Ltd., 14, St. Mary Axe, E.C.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.

LIQUID FUEL BURNERS.

Kermode's Liquid Fuel System, 35, The Temple, Dale Street, Liverpool.

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The Anglo-American Oil Co., Ltd., 36 & 38, Queen Anne's Gate, London, S.W.
Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
British Petroleum Co., Ltd., 22, Fenchurch Street, London, E.C.
Lubricating and Fuel Oils, Ltd., 101 Leadenhall Street, London, E.C.

LIQUID FUEL INSTALLATIONS.

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Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.
Bramwell, Fern & Co., London, Manchester and Liverpool.
Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.
Crew Levick Co., Irwell Chambers, W. Liverpool.
Lubricating and Fuel Oils, Ltd., 101, Leadenhall Street, London, E.C.
Meade, King, Robinson & Co., 22, Water Street, Liverpool, and Manchester.
The Gulf Refining Co., Frick Building Annex, Pittsburgh, Pa., U.S.A.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
Waverley Oil Work Co., Pittsburgh, Pa., U.S.A.
Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

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Meade, King, Robinson & Co., 22, Water Street, Liverpool.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
Waverley Oil Works Co., Pittsburgh, Pa., U.S.A.

OIL ENGINES.

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OILS.

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Anglo-Maikop Corporation, Ltd., 7, Angel Court, E.C.
Anglo-Mexican Petroleum Products Co., Ltd., Finsbury Court, Finsbury Pavement, London, E.C.
Arnott, James, & Sons, Ltd., Dean Street, Newcastle-on-Tyne.
Continental Petroleum Co., 13, Rue des Douze Mois, Antwerp.
Crew Levick Co., Irwell Chambers, W. Liverpool.
Homelight Oil Co., Ltd., 14-20, St. Mary Axe, E.C.
The Texas Co., Billiter Buildings, 22, Billiter Street, E.C.
Waverley Oil Works, Pittsburgh, Pa., U.S.A.
Worthington & Boler, 30, Chapel Street, Liverpool, and 17, Philpot Lane, London.

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Homelight Oil Co., Ltd., 14, St. Mary Axe, London, E.C.

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Walker, C. W., Ltd., Donnington, near Newport Salop.
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Prior, S. J. B., 5, Laurence Pountney Hill, E.C.

TRAM AND WAGON GREASE.

Goodall & Simpson, Ferry Road Oil Works, Cardiff.

TUBES (STEEL AND IRON).

Deutsche - Oesterreichische Mannesmannröhren Werke, Düsseldorf, Germany.
Russell, John, & Co., Ltd., Alma Tube Works, Walsall.
Spencer, John, Ltd., Globe Tube Works, Wednesbury.
Thom, John M., Patricroft, near Manchester.

WAXES.

Benjamin & Gee, 31, St. Mary Axe, E.C.

WIRE ROPES.

Glaholm & Robson, Ltd., Sunderland. London Office: Finsbury Court, Finsbury Pavement, London, E.C.
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The Editor would esteem it a favour if readers, when communicating with the various firms advertising in our pages, would mention the REVIEW.

Contributions upon items of interest are always welcomed from subscribers, but in each case these should be accompanied with the name and address of the sender, not necessarily for publication, but as a guarantee of good faith.

Editorial Notes.

TO OUR READERS.

To our Readers at Home and Abroad we would extend in all sincerity the hearty wish for a Happy and Prosperous New Year.

"Here's to 1914."

Au Revoir
1913.

ANOTHER few days and the year 1913 will pass into the limbo of the forgotten past. Even as we write all business in oil matters is in a very lethargic mood, awaiting for the advent of 1914, which, it is hoped, will

bring with it far more of those good things than has been associated with the now dying 1913. True it is that oil prices have during the twelve months been kept at a highly remunerative level, but with perhaps this one exception there is nothing obtained by a retrospective glance at its career, which will cause those associated with the petroleum industry generally to view with anything but feelings of pleasure the fact that the unlucky '13 is approaching its end. This may be said of it, however, it has afforded an opportunity for the industry all over the world to prepare for those coming periods of remarkable expansion and activity which are without a doubt in store for the coming year.

"The
Petroleum
Review."

AS for ourselves, we are pleased to report that the passing year has been a particularly favourable one for the REVIEW. At its commencement, our readers will recollect, we reverted to our former policy of publishing the journal weekly and at half its former price, for we were convinced that the time had arrived when the importance of the industry, with its immense ramifications all over the world, warranted the weekly diffusion of news of so international a character as that regularly given in our columns. This week's issue of the REVIEW completes the first year of the weekly publication, and it is therefore a fitting occasion to say a word or two about ourselves. We are pleased to be able to state that the position of the journal was never so satisfactory as it is to-day; its clientele of subscribers has never before been so great (subscribers, we must add, drawn from all parts of the world), while the support from our advertising friends, at all times good, has increased in a remarkable degree. Thus the REVIEW has every reason to be proud of the premier position which it occupies in the literature associated with the petroleum industry. In the future, as in the past, the REVIEW will always strive to live up to those high ideals laid down at the inception of the journal some fifteen years ago, and with the continued support of all our friends the world over we approach the future with full confidence.

America's
Increasing
Foreign
Oil Trade.

THE official returns of America's over-seas trade in petroleum products eloquently speak of the expansion which has for years been its one great characteristic. From the details of the foreign trade during October in American petroleum products a distinctly healthy tone permeates the whole of the several branches of the petroleum export trade, for though there is but one classification—that of lubricating oils—in which a decrease of export volume is shown, even here the enhanced valuation more than makes good the otherwise slight deficit. The total quantity of American petroleum products shipped abroad during October constitutes a new record for America's over-seas petroleum trade, both in quantity and value, for during the month the former was over 220,000,000 gallons and the latter \$15,000,000, as compared with a total exported quantity of 145,000,000 gallons, valued at \$9,300,000, for the corresponding period of last year. In the various products exported the greatest increase during the month is in the exports of motor spirit, for the shipments for foreign markets have been more than doubled—a significant fact, as proving the determination of the American exporting interests not to allow other competitors to have all their own way.

TAMPICO OIL, LIMITED.

THE annual report of the directors of the Tampico Oil, Limited, which is to be submitted to next Tuesday's meeting of the shareholders, states that since the last report operations have been carried on at the company's properties with great difficulty, owing to the severe flooding of the area. The whole of the properties, excepting those in the north, are surrounded by water; added to which there have been great delays in the delivery of materials, due to the revolutionary disturbances. The gas pressure at the producing wells has fallen off, and in view of the necessity for securing pumping plant, etc., and the general condition of the properties, the directors have employed Mr. Lewis Hamilton to visit and report upon the property, and to make recommendations to the board as to the future operations to be carried out. The net production of oil up to the end of November amounted to 77,844 barrels.

ISSUED CAPITAL OF ENGLISH COMPANIES.

As will be seen from page 694, and in accordance with the request of some of our subscribers, we are from now publishing the actual issued capital of the English operating companies, instead of the nominal capital, as after all the former conveys the correct value of the shares.

NEW YORK PRODUCE EXCHANGE ADOPTS NEW PETROLEUM RULES.

THE New York Produce Exchange, after several weeks' consideration of proposed amendments to the rules governing petroleum trade, has officially approved them as of immediate effect. The most significant change has been in the substitution of Rule 2, which provided for the appointment of a committee known as the Petroleum Quotation Committee, whose duty was described as confined to quoting the price of petroleum and its merchantable products on each business day of the year for the records of the Produce Exchange, in books provided for that purpose. From such records the market price of petroleum and its products on any given day, or during any given period, shall be the basis of the decisions of the Committee on Petroleum as to the standard for the settlement of contracts or the adjudication of cases in dispute.

The board of managers, says the *Oil Paint and Drug Reporter*, favoured the elimination of this rule, believing that its omission would be the most effective means of relieving the Exchange of any responsibility concerning the operations of the Petroleum Quotation Committee in making entries upon Exchange books which might be construed as official records. As there has been no trading in petroleum and its products on the floor of the Exchange for a period of fifteen years or more there has been no official basis upon which market prices and conditions could be established, and the posting of quotations that were not the result of actual exchange sales raised a question of the Exchange's liability under the State or Federal statutes

PRODUCTION OF ENGLISH COMPANIES IN RUSSIA.

RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended December 20th was 115,000 poods.

SPIES PETROLEUM COMPANY, LTD.—The production for week ended December 21st was 278,480 poods, or about 4,492 tons. The total production for the year from January 14th to December 21st was 12,942,295 poods, or about 208,747 tons. The total production for the corresponding period last year was 15,624,305 poods, or about 252,005 tons. Price of crude oil at Baku is now 39 copecs per pood.

MAIKOP VICTORY OIL COMPANY, LTD.—The production of crude oil for week ended December 20th was 19,630 poods, or 317 tons.

EUROPEAN OILFIELDS CORPORATION, LTD.—The production for the week ended December 21st was 105,500 poods, or 1,700 tons.

BAKU RUSSIAN PETROLEUM COMPANY, LTD.—The production for the week ended December 13th was 117,000 poods.

BLACK SEA OIL FIELDS, LTD.—The production of this company for the week ended December 20th was 23,260 poods (375 tons).

MAIKOP NEW PRODUCERS, LTD.—Production for week ended December 20th was 7,300 poods (118 tons).

BRITISH MAIKOP OIL COMPANY, LTD.—Production for week ended December 14th was 16,792 poods, or 271 tons.

NEW SCHIBAIEFF PETROLEUM COMPANY, LTD.—Gross production for week ended December 13th, 104,850 poods, or 1,691 tons.

NORTH CAUCASIAN OIL FIELDS, LTD.—The latest production for week ended December 16th was 6,305 tons. Corresponding period last year, 1,726 tons. Total production to date for this year, 125,239 tons; last year, 35,535 tons.

BIBI-EIBAT PETROLEUM COMPANY, LTD.—Production for the week ended December 21st was 101,833 poods, or 1,643 tons.

MAIKOP MIDLAND.—Production at Krimskaya for week ended December 20th was 6,200 poods, or 100 tons.

MAIKOP PREMIER OIL SYNDICATE, LTD.—The production for the week ended December 20th was 15,411 poods (249 tons).

SHAGIRT (CHELEKEN) OIL.—Estimated production of crude oil for week ended December 20th was 1,380 poods (22 tons).

CHELEKEN OILFIELDS, LTD.—Estimated production for the fortnight ended December 6th was 1,867 tons.

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AN INTERESTING LECTURE ON PETROLEUM.

BY M. DE GWINNER.

M. DE GWINNER, the well-known financier and chairman of the "Steaua-Romana" and the European Petroleum Union, recently delivered an exceedingly interesting lecture on petroleum in the large hall of the Berlin Academy of Commerce, which attracted the attention of gentlemen associated with the scientific, industrial and commercial spheres in Germany.

The great personality of the lecturer, as well as his important position in the international petroleum industry, attracted to the lecture a most distinguished and very large audience, among whom were the heads of the financial and commercial world in Berlin, representatives of the imperial authorities, men of science, and also notable personalities of Berlin high society. The lecture was followed by the audience with the utmost interest, and rarely before has the large hall of the Berlin Academy of Commerce seen within its walls an audience so select and so attentive.

Mr. Gwinner commenced his lecture with a retrospective view of the history of the petroleum industry and of the various hypotheses dealing with the genesis of petroleum. He then depicted an interesting sketch of the progress of petroleum production commencing with the first important discoveries made fifty years ago, and leading up to the marvellous results which are being obtained at the present time. He also pointed out that petroleum was known to the most ancient generations, as is proved, for instance, by the ruins of refineries recently discovered at Mesopotamia and the celebrated sacred fires in the temple near Baku. Mr. Gwinner also fully explained all the technicalities of the production and refining of petroleum. This part of the lecture was illustrated by limelight views representing various fields and large refineries, and the perfectly complete series of pictures allowed the audience to fully understand all the processes used in the extraction and refining of petroleum.

The lecturer then passed to the most important part of his discourse, bearing on the economical probabilities of the petroleum industry generally and the formation of the German monopoly of petroleum particularly. He first of all mentioned that the Government monopoly of petroleum is far from being original, as several thousand years ago there existed such a monopoly in Egypt. Entering into the details of the question he depicted and enumerated the most important groups of producers and distributors of petroleum, who at present dominate the world's market. The lecturer gave the first place to the "Standard Oil Company" as being the largest of all the organisations at present existing. This enterprise possesses a nominal capital of 100,000,000 dollars, but as its shares are now quoted at 1,150 per cent., the capital of the "Standard" now really amounts to £230,000,000. The company pays over £50,000,000 a year in dividends, but, of course, the gross profits are at least double. A characteristic fact giving an idea of the enormous profits of the

"Standard" is that an affiliated company has paid in one year 2,950 per cent of dividends, and another affiliated company has paid without the least difficulty a fine of \$12,000,000, which was imposed upon it by the High Court of the United States. The second place as regards size and importance belonged to the "Royal Dutch-Shell Group," which owned an enormous number of petroleum exploitations principally in Borneo. Then followed the "European Petroleum Union" (E.P.U.), of which the lecturer was the chairman. That company had a capital of 37,000,000 marks, and was exclusively employed in the distribution and sale of petroleum products. Its principal supplier of products is the "Steaua-Romana" which had a capital of 100,000,000 frs. Among the other leading companies, the lecturer named the Mexican group of Lord Cowdray, the Burmah Oil Company and the Anglo-Persian Oil Company.

The lecturer then discussed the gigantic fights which had taken place during the last few years on the international market between various concerns and the "Standard," and in doing so he condemned the general policy and tactics of the "Standard," as a company antagonistic to the concerns of which the lecturer was chairman. He stated the fact that, notwithstanding the exertions of the competitors of the "Standard" and the legal measures taken in the United States against the company, also the sentence of the High Court, which ordered its dissolution, the "Standard" continued to be unaffected.

As regarded the formation of the German monopoly Mr. Gwinner was of opinion that an American company would hardly dare to boycott the German company formed by the monopoly, for when the monopoly was established the American company would be among the first to approach a client consuming a million litres of illuminating oil yearly, and would be only too pleased to supply the German monopoly in the same way as it already supplied other existing monopolies. In any case, the German company formed by the monopoly would be able to get a sufficient supply from other sources—even from America, where the "Standard" owned only one-third of the American production and two-thirds of the refining industry and all the means of transport.

In concluding, the lecturer described the general importance of the petroleum industry, mentioning that at the present moment this industry was of special interest in view of the increasing possibilities offered by petroleum in its capacity as liquid fuel, possibilities which had been greatly increased by the ingenious invention of Dr. Diesel. The lecturer foresaw that in future the armies and navies of the world would have more need of petroleum.

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The Petroleum Refining Industry in the United States.

FORTHCOMING IMPORTANT REPORT.

Washington, December 5th, 1913.

FINAL figures prepared by Director Harris, of the Bureau of the Census, Department of Commerce, regarding petroleum refining in the United States during 1909, says our contemporary, the *Oil Paint and Drug Reporter*, are given in detail in a bulletin soon to be issued by the Bureau.

In summarising the principal facts that are to be brought out in this bulletin, the following comments are made:—

This industry includes only such establishments as are engaged primarily in the refining of crude petroleum by distillation. Establishments which purchase refined or partly refined petroleum products and compound them with vegetable, animal, or mineral oils or other substances, in order to produce a special composition, are, therefore, excluded. Although crude petroleum was utilised commercially in the United States prior to 1879, the statistics for the petroleum refining industry given in the census reports prior to that time are not comparable with those for the later censuses. In 1859, 78 establishments were reported with products valued at \$6,397,680, and in 1869 170 establishments reported products valued at \$26,942,287.

The petroleum refining industry advanced steadily during the thirty years, 1879–1909, the amount of petroleum refined in 1909 being almost seven times as great, and the cost of materials and value of products each being over five times as great as in 1879. The increase in the number of wage earners was comparatively slight—41.1 per cent. during the 30-year period. At the census of 1909 one of the largest companies in the United States made separate reports for their box, cooperage, and tin shops, which at prior censuses had been included with the reports for the refineries. This has considerably affected the number of wage earners for the industry in 1909 as compared with those for prior censuses.

During the decade 1899–1909 the average number of wage earners increased from 12,199 to 13,929, or 14.2 per cent., while the value of products increased from \$123,929,384 to \$236,997,659, or 91.2 per cent.; and the value added by manufacture from \$21,070,043 to \$37,724,257, or 79 per cent. At each census the cost of materials constituted a very large part of the expenses reported for the industry. In 1909 this cost amounted to 84.1 per cent. of the total value of products as compared with 79.6 per cent. in 1904, 83 per cent. in 1899, 79.9 per cent. in 1889, and 80.1 per cent. in 1879.

The capital invested in 1909 amounted to \$181,916,205.

As measured by average number of wage earners, value of products, and value added by manufacture, New Jersey ranked first in the petroleum refining industry at the census of 1909; Pennsylvania and New York second and third, respectively, in average number of wage earners and value of products; while Indiana

ranked third in value added by manufacture. There was considerable change in the relative rank in value of products of the States at the several censuses, Texas advancing from ninth place to fourth, and California from eighth to fifth during the decade 1899–1909, while during the same period Indiana fell from fourth place to sixth, and Ohio from fifth to seventh.

The average number of persons engaged in the petroleum refining industry during 1909 was 16,540, of whom 13,929, or 83.7 per cent., were wage earners. Although wage earners at both censuses represented more than 80 per cent. of the total number of persons engaged in the industry, their number decreased 16.9 per cent. from 1904 to 1909, while salaried employees shows an increase of 35.2 per cent. for the five years. Practically all (99.7 per cent.) of the wage earners employed in the industry in 1909 were in establishments where the prevailing number of hours of labour were 54 or more per week.

The great and increasing extent to which the industry is dominated by establishments under corporate ownership is shown. Corporations controlled 89.1 per cent. of the establishments in the industry, and reported 98.1 per cent. of the total value of products in 1909, as compared with 84.7 per cent. and 96.9 per cent., respectively, in 1904. Of the total number of wage earners in the industry, 99, or seven-tenths of 1 per cent. were employed in establishments under individual ownership; 152, or 1.1 per cent., by establishments under firm ownership; and 13,678, or 98.2 per cent. by establishments under corporate ownership. Establishments under ownership other than corporate were reported from only three States—California, Pennsylvania, and Oklahoma—Pennsylvania being the only State in which such establishments were of importance.

More than 99 per cent. of the value of products of the industry, both in 1909 and 1904, was reported by establishments with products to the value of at least \$100,000, and nearly 90 per cent. at each census was reported by establishments having products to the value of \$1,000,000 or over. The gain of this latter class of establishments in value of products was more than 35 per cent. Establishments with products of less than \$100,000 in value constituted nearly 30 per cent. of the total number at both censuses.

The total expenses in the establishments of the industry in 1909 were \$222,477,636, distributed as follows: Cost of materials, \$199,273,402, or 89.6 per cent.; wages, \$9,830,078, or 4.4 per cent.; salaries, \$3,928,867, or 1.8 per cent.; and miscellaneous expenses, made up of advertising, ordinary repairs of buildings and machinery, insurance, travelling expenses, and other sundry expenses, \$9,445,289, or 4.2 per cent.

Of the seven fields from which crude petroleum was secured during 1909, the largest producer was the Mid-continent field (Kansas and Oklahoma), from which

42,895,031 barrels, or 35.5 per cent. of the total output of the country, were obtained in 1909. The Illinois field was next in importance, furnishing 21.7 per cent. of the total, while the Appalachian field furnished 20.4 per cent., and the California field 11.2 per cent.

The total quantity of crude petroleum produced in 1909, according to the statistics of the census, was 171,559,394 barrels, its value at the well being \$117,696,529. In that year 120,775,439 barrels of crude petroleum were used as material in the refineries, this quantity being equal to 70.4 per cent. of the total production.

The cost per barrel of crude petroleum from the different fields varies considerably, ranging from 75 cents in California and 98 cents in the Mid-continent fields to \$1.38 in Illinois and \$1.94 in Pennsylvania. This variation is due largely to differences in the chemical composition of the oil and its physical freedom from foreign substances. The average cost per barrel for the entire country was \$1.26.

The total cost of all materials used in the industry increased 93.7 per cent. during the decade ending with 1909. The cost of crude petroleum alone increased 89.4 per cent., while the quantity used showed a gain of 132.2 per cent., thus indicating that there was a considerable decrease in the average cost per barrel. This is, no doubt, occasioned by the fact that the inferior Western oils comprised a much larger proportion of the total amount used in 1909.

The combined value of illuminating oils, naphtha and gasoline, lubricating oils, and fuel oil, was \$209,666,088, or 88.5 per cent. of the total value of products of the industry. Illuminating oil was by far the most important product in 1909 as measured by value, but was second in respect to quantity. Fuel oils, of which 34,034,577 barrels were reported, ranked first in quantity and fourth in value. Naphtha and gasoline ranked second in value and third in quantity. Most of the products showed large percentages of increase from 1899 to 1909, both in quantity and in value. The largest gain was in the case of fuel oil, which increased 27,939,353 barrels, or 458.4 per cent. in quantity, and \$28,912,219, or 382.9 per cent., in value during the decade. The production of lubricating oils increased 215.2 per cent. in quantity and 256.8 per cent. in value.

In the United States the quantity of illuminating oils obtained in 1909 was equal to 33 per cent. of the quantity of crude petroleum used; that of fuel oil, to 33.5 per cent.; that of lubricating oil, to 10.6 per cent.; that of naphtha and gasoline, to 10.7 per cent.; and that of other products, to 2.8 per cent. The refineries in California, which used oil solely from the California field, obtained illuminating oil equal to 15.3 per cent. of the quantity of crude oil; fuel oil, 34.7 per cent., and lubricating oil, 1.6 per cent., while for the refineries of Pennsylvania, using principally oil from Pennsylvania and Illinois, the ratios were: Illuminating oil, 47.1 per cent.; fuel oil, 14.7 per cent.; and lubricating oil, 17 per cent.

Exports of petroleum products have, with a few exceptions, increased each year. Nearly two-thirds of the total amount of petroleum products exported in 1910 consisted of illuminating oils.

ROUMANIAN PETROLEUM EXPORTS DURING OCTOBER.

The exports of various petroleum products from Roumania to various countries during October were as under:—

	Crude Oil, Gas Oil, etc. Tons.	Residuals. Tons.	Kerosene. Tons.	Benzine. Tons.
England ...	—	8,838	9,050	9,801
Austria ...	1,067	7,143	589	1,854
Belgium ...	—	—	1,683	—
Bulgaria ...	66	2,595	1,487	126
Egypt ...	—	—	5,061	40
France ...	29	38	3,710	7,643
Germany ...	334	4,587	10,459	5,598
Greece ...	—	52	—	10
Italy ...	—	3,364	4,036	1,830
Denmark ...	—	5,200	—	—
Tunis ...	—	5,217	—	—
Turkey ...	11	1,168	2,078	102
Servia ...	96	22	—	12
Switzerland ...	—	—	74	11
Holland ...	—	—	—	5,055
Russia ...	26	28	—	—
Totals ...	1,629	38,254	38,227	32,084

Of paraffin there were exported during the month, 25 tons to Bulgaria and 15 tons to Russia.

THE ILLUMINATING POWER OF KEROSENE

PROFESSOR PROESSDORF has made numerous experiments on the illuminating power of various kerosenes in use in Germany, and has stated the great influence exercised on same by burners and chimney-glasses used with the lamps:—

Kind of Kerosene.	Burner.	Chimney-glass.	Illuminating Power, in Standard Candles.
Pennsylvanian ...	Cosmos ...	Ordinary...	13.54
	Reform ...	Reform ...	16.84
	" ...	Ordinary...	13.44
American Family Oil ...	Cosmos ..	" ...	12.28
	Reform ...	Reform ...	15.78
	" ...	Ordinary...	14.55
Pennsylvanian and Texas (mixed in equal proportions) ...	Cosmos ...	" ...	13.49
	Reform ...	Reform ...	15.56
	" ...	Ordinary...	12.18
Pennsylvanian and Galician (mixed in equal proportions) ...	Cosmos ...	" ...	12.73
	Reform ...	Reform ...	15.82
	" ...	Ordinary...	14.12
Pennsylvanian and Russian (mixed in equal proportions) ...	Cosmos ...	" ...	13.10
	Reform ...	Reform ...	15.15
	" ...	Ordinary...	11.60
Russian Meteor 810 ...	Cosmos ...	" ...	11.62
	Reform ...	Reform ...	16.78
	" ...	Ordinary...	11.51
Russian Kerosene 779 ...	Cosmos ...	" ...	11.44
	Reform ...	Reform ...	16.63
	" ...	Ordinary...	10.49
Russian Nobel 824 ...	Cosmos ...	" ...	9.97
	Reform ...	Reform ...	17.91
	" ...	Ordinary...	9.97
Galician ...	Cosmos ...	" ...	10.53
	Reform ...	Reform ...	16.37
	" ...	Ordinary...	9.56

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THE OILFIELDS OF BURMA.

Their History and Development.

By Mr. E. H. PASCOE (*Assistant Superintendent of the Geological Survey of India*).

*Reprinted from
"Memoirs of the
Geological Survey
of India."
Volume XL, Part 1.*

(*Concluded from page 663.*)

THE second type occurs along with the other on the Arakan coast and has already been mentioned. The paroxysmal nature of these outbursts is probably due to the greater hardness and lesser porosity of the strata. The slowly percolating gas gradually accumulates below the fissure or irregular channel which is blocked with material left there by the last outburst, until the pressure is sufficient to lift this and fling it and other broken pieces of rock out at the aperture, accompanied by saline mud. Both rock-fragments and mud can be identified with exposed strata and are always recognisable. As Mallet remarks, the ejection of lignite and pyrites from the Arakan cones shows that the temperature below is not high. The violence of the outbursts varies with the length of interval between them and both are in all probability dependent upon the resisting power of the blocking material, and are therefore accidental quantities. The pressure sometimes must be enormous. Rumbling noises are heard and the friction between the fragments is sufficient to ignite the gas. These fierce eruptions may last for nearly an hour, but even in these paroxysmal vents the channel may remain open sufficiently between the paroxysms to allow of mud alone being brought quietly to the surface and slowly projected over the crater-rim in the more ordinary way. Both phenomena therefore are of the same kind and both are shallow-seated, since both mud and rock fragments have been derived from strata similar in every way to those exposed at the surface.

It has been rumoured that the mud-vents of Arakan

and also of Minbu are more active during the "rains" than they are at any other season of the year. Mallet has shown that this is erroneous with regard to the Arakan coast—out of thirteen eruptions only three taking place during the "rains." Mallet evidently confined his observations to the paroxysmal eruptions, and as, according to my suggestion, the time at which these take place is very largely a matter of accident, it may yet be true that the quieter type is more active when there is a greater head of water pressing upon the gas. Dr. Horsfield says this is true with regard to the vents in Java, and M. Dubois de Montpéroux makes the same statement concerning those near the mouth of the Sea of Azov. Mr. Dunlop, of Kyaukphyu, states that the large "volcano" of Cheduba Island, until recently, had a fiery eruption regularly every year, at the end of the rainy season or shortly after. Possibly this may be caused by the accumulated pressure of water. Dr. Noetling also says that the Minbu vents appeared to him more active during the "rains," or, rather, at high water, and suggested with reason that the rise of the river was the cause.

Dr. Oldham found the temperature in both the gas-pools and cones at Minbu to be 87°, that of the air being 81° and the mean for that day 79° 50'. This slight excess of temperature, in spite of the evaporating action of the bubbling gas, may be due to the depth from which the mud is derived, to the churning action of the gas, and to surface heat. Dr. Noetling took many temperatures from the same salses in 1888, 1889 and 1895, but omitted to record the temperatures of the air at the time.

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„ Servian ...	6,700	New Steamer	6,200	„ Luciline ...	5,200
„ Carpathian	6,700	„ „	6 200	„ Le Coq ...	4,700
„ Roumanian	6,700	„ Terek ...	5,200	„ Rock Light...	4,100
		S.S. Lux ...	2,900		

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Company.	Share Capital Issued.	Value of Shares.	Latest Prices.
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Anglo-Persian Oil Co., Ltd.—			
6% Part. Pref. ...	900,000	£1	1- $\frac{1}{8}$
5% Debentures ...	600,000	£100	92-97
Assam Oil Co. ...	310,000	£1	$\frac{9}{16}-\frac{11}{16}$
Baku Russian Petroleum Co.	711,370	10/-	5/3-5/9
Bibi-Eibat Oil Co. ...	250,000	10/-	6/0-7/0
European Oilfields ...	319,181	10/-	5/6-6/6
Lobitos Oilfields, Ltd. ...	400,000	£1	27/-28/xd
North Caucasian Oilfields—			
7% Pref. ...	78,000	£1	—
Ord. ...	465,000	10/-	32/6-33/0
Oilfields Finance Corp., Ltd.	370,010	£1	$\frac{5}{8}-\frac{3}{4}$
Pacific Oilfields, Ltd. ...	250,000	£1	$\frac{1}{8}-\frac{3}{8}$
Roumanian Consolidated			
Oilfields ...	1,158,840	£1	20/6-21/6
Russian Petroleum Co. ...	999,373	10/-	3/3-3/9
Schibaieff Petroleum, Pref. ...	470,000	fully pd.	1 $\frac{1}{4}$ -1 $\frac{3}{4}xd$
Ord. ...	690,000	fully pd.	13/9-14/9
Shell Transport and Trading			
Co., Ltd. ...	4,047,610	£1	$\frac{42}{32}-\frac{43}{32}$
Pref. ...	2,000,000	£10	10 $\frac{1}{8}$ -10 $\frac{3}{8}$
Spies Petroleum Co. ...	750,000	10/-	21/9-22/3

RUSSIAN COMPANIES.

Company.	Nom. Value in Roubles.	Latest Quotations.	
		Lowest Roubles.	Highest Roubles.
Bebe-Aibat Russian Petrol Co. ...	250	650	652
Baku Naphtha Co. (Issue of 1908) f.-pd.	100	675	678
Caspian Society (Issue 1910) ...	1,000	3,185	3,210
A. I. Mantascheff & Co. ...	250	705	708
Nobel Bros. ...	5,000	19,100	19,200
Nobel Bros. (Issue 1912) ...	250	1,002	1,005
Russian Naphtha Society ...	100	263	264
Ter-Akopoff Co. ...	250	430	435
Lianosoff & Co. ...	100	250	252
Petroleum Trading Co. ...	250	274	280
Shikhovo Petroleum Co. ...	—	395	400

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Company.	Capital Paid Up.	Value of Shares.	Latest Prices.
	£		
Broxburn Oil Co., Ltd., Ord., 17/- pd.	235,000	£1	36/3
6% Cum. Pref.	100,000	£10	£11
Burmah Oil, Ord. ...	1,100,000	£1	74/9
Pref. ...	250,000	£1	26/6
Dalmeny Oil Co., Ord. (£7 paid) ...	37,800	£8 10s.	85/0
5% Pref. ...	18,900	£7	70/0
Kern River Oilfield of California, Ltd. ...	£597,192.10s.	10s.	6/6
Mexican Eagle Oil, Ltd.,			
Non. Cum. Pref. ...	\$8,500,000	\$10	37/0
Oakbank Oil Co., Ltd., Ord. ...	170,000	£1	35/6
Pref. (£1 paid) ...	100,000	£1	21/4 $\frac{1}{2}$
Premier Oil Ord. ...	2,300,000	£1	6/3
Pumpherstons Min. Oil Co., Ltd.			
Ord. (17/- paid) ...	110,500	17/-	5 $\frac{5}{8}$
6% Cum. Pref. ...	100,000	£10	25/0
Trinidad Oilfields, Ltd. ...	268,500	£1	9/0
Young's Paraffin Co., Ltd., Ord. ...	452,808	£4	73/9
" " "B" Deb. ...	160,000	£100	£153

DUTCH COMPANIES.

Company.	Quotations (per cent.).
Dordtsche Petroleum Industrie My., Ord. ...	Aand 179 $\frac{1}{2}$
" " Pref. ...	" 181
Royal Dutch Petroleum Co. ...	" 601 $\frac{1}{2}$
Moeara Enim Petroleum Maatschappij ...	" 234
Perlak Petroleum Maatschappij ...	" 36 $\frac{7}{8}$
Sumatra Palembang Petroleum Maatschappij ...	" 222
Zuid Perlak Petroleum Maatschappij, Pref. ...	" 36 $\frac{1}{4}$
Tarakan Petroleum Maatschappij ...	" 123

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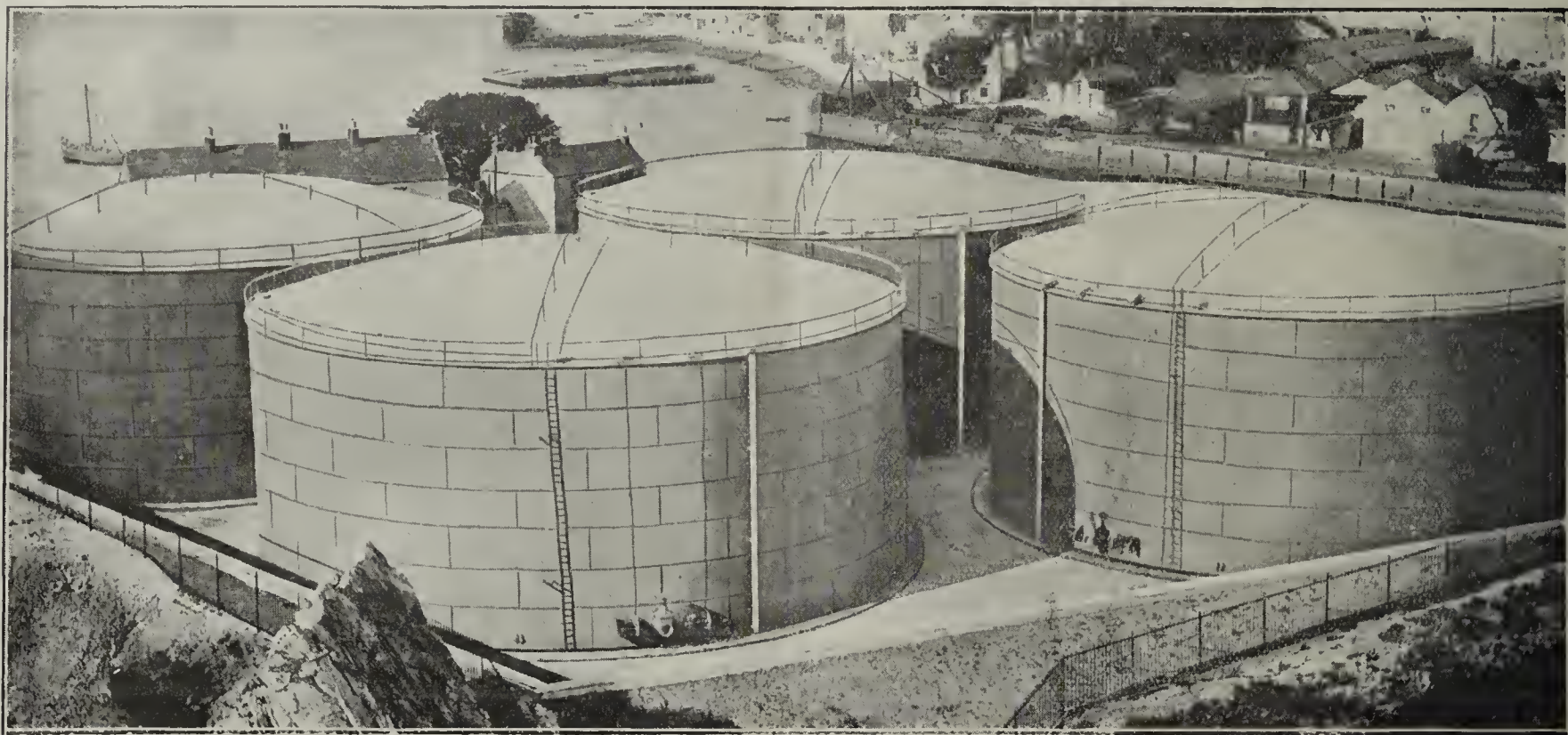
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CHIEF CONTENTS.

	PAGE
Editorial Notes	687
Production of English Companies in Russia	688
An Interesting Lecture on Petroleum	689
The Petroleum Refining Industry in the United States	690
The Oilfields of Burma	692
Latest Quotations of Petroleum Shares	694
Our Motor Spirit Trade and Its Significance	697
Classified Imports into the United Kingdom	698
Notes from the Oilfields	699
The Organisation of Boring in the Baku District	700
The Decline of Oil-Producing Wells	701
The Trinidad Oilfields, Ltd.	703
The American Oil Market	704
Home and Foreign Market Intelligence	705
Imports of Petroleum Products	706
The REVIEW Shipping List	707

— THE —

PETROLEUM REVIEW,

45, St. Mary Axe, LONDON, E.C.

American Office: 111, Broadway, New York.

SATURDAY, DECEMBER 27TH, 1913.

OUR MOTOR SPIRIT TRADE AND ITS SIGNIFICANCE.

YEAR by year our import trade in motor spirit continues to expand with a rapidity hitherto undreamt of, and when our official figures for this year's trade are announced—which will be shortly after the New Year—it will be found that this branch

of the petroleum business is now not only one of the most remunerative, but is one of the most important as well. To-day our motor spirit trade amounts to approximately 25 per cent. of the total quantity of petroleum products handled in this country, and now exceeds 100,000,000 gallons per annum. Exactly twelve months ago, when dealing with this subject, we ventured the prophecy that during 1913 the demand for motor spirit in the United Kingdom would call for the importation of at least 100,000,000 gallons, and the fact that this enormous figure has actually been reached shows that we had gauged the march of progress very well.

Those who have followed the REVIEW closely during the past few years need not to be told that it is upon the Far Eastern fields of the Shell-Royal Dutch group that this country has to depend for the bulk of its motor spirit supplies. We would, however, say a word or two to those dissatisfied consumers of motor fuel who are ever shouting out about the ravenous monopolists who have brought motor spirit to its present prices. Let us ask in reply where these motoring critics would be if it were not for the fact that the corporations whom they would decry have alone made it possible to motor at all. Take away the Far Eastern fields out of the area of supply, and we in this country would immediately have to go short of two-thirds of our total petrol requirements. In other words, the United Kingdom's one bright spot for future petrol supplies lies in the fact that, seeing that so much English finance is in the Far Eastern fields, we may rest assured of adequate supplies of spirit, and at prices which, while never anything approaching the low and quite unremunerative retail figures of three years ago, will always be kept at a reasonable level.

England may well be proud of the fact that, far though she is from the fields of motor spirit supply, there are very few countries in the world where it can be purchased, as here, at 1s. 6d. per gallon—not counting the Government tax, of course.

But though the Far East stands in the premier position in regard to this country's motor spirit trade, there are several other large producing fields whose benzine imports into the United Kingdom are of no insignificant proportion.

The United States, for instance, is steadily increasing her volume of motor spirit trade with us, and during the twelve months now closing we have received from that source even more than 25 per cent. of our total

requirements—a far larger supply than has come to our shores for several years from the States. Then there is Russia, which has contributed about 12 per cent. to our motor spirit needs, while Roumania has shipped to us one half of this amount, viz., 6,000,000 gallons, and this in spite of the Balkan trouble, which must have considerably upset Roumania's exports for several months.

During the year we have heard a great deal of home-produced spirit, but the actual trade done in benzol has been comparatively small, and if we put this down at 2,000,000 gallons we are as accurate as it is possible to get.

An interesting phase of our motor spirit trade is the enormous amount it is yielding by its Government tax to imperial purposes. During the first year this 3d. tax was levied the amount received into the imperial exchequer was £312,881; the next year ending March, 1911, it was £427,143; in 1912 it reached £607,743; and for the twelve months ended last March the official figures are £721,951. Taking the present calendar year our motor spirit trade will yield the Exchequer over £1,100,000, that is, after making due allowance for all rebates, etc. Our motor spirit trade has, therefore, without doubt, a real significance of its own, and one which will become even the more pronounced as time goes on.

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Registered on December 16th, by Newman & Sons, 65-66, Chancery Lane, W.C. Objects: to carry on the business indicated by the title. Signatories: H. C. Newman and N. C. Newman, both of 66, Chancery Lane, W.C. First directors are not yet appointed. Private company.

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	Since Dec. 15.	From Jan. 1.	Since Dec. 15.	From Jan. 1.	Since Dec. 15.	From Jan. 1.	Since Dec. 15.	From Jan. 1.	Since Dec. 15.	From Jan. 1.	Since Dec. 15.	From Jan. 1.	Since Dec. 15.	From Jan. 1.	Since Dec. 15.	From Jan. 1.
Belgium ..	—	250	20,040	828,683	—	—	—	—	—	72,310	—	120	—	5,070	20,040	817,433
Canada ..	—	—	—	9,820	—	63,660	—	—	—	—	—	—	—	—	—	79,480
Dutch Indies ..	—	70	—	—	—	—	—	—	—	—	—	—	—	—	—	40,691,347
Germany ..	1,600	232,120	38,410	3,473,800	—	600	—	211,810	—	40,309,050	—	382,227	—	—	—	4,575,380
Holland ..	—	—	2,080	12,560	—	—	—	—	—	651,640	—	800	—	4,610	40,010	4,575,380
Mexico ..	—	5,753,800	—	—	—	—	—	—	5,000	7,364,340	—	—	—	590	7,080	7,377,490
Roumania ..	—	20,712,357	—	340,060	—	—	—	1,038,280	—	1,528,800	—	12,812,160	4,400	4,400	4,400	21,137,440
Russia ..	—	9,844,560	600	12,906,101	—	—	—	1,150,000	—	5,802,950	567,000	9,919,540	—	—	567,000	37,924,907
U.S.A. ..	1,002,290	115,878,777	1,766,480	46,578,234	8,000	520,870	71,100	62,193,220	—	11,889,350	—	—	—	—	600	35,160,881
Other Countries	—	80	15,280	169,790	—	480	—	—	—	23,706,880	—	7,701,550	19,130	934,325	2,867,000	257,232,741
	1,003,890	152,422,014	1,842,890	64,219,048	8,000	831,365	71,100	64,593,310	5,000	96,184,560	567,000	30,879,267	23,530	2,051,355	3,521,410	411,191,919

NOTES FROM THE OILFIELDS.

RUSSIAN.

Dossor Petroleum.—During July-September there were delivered on the Astrakhan market 4,221,782 poods of Dossor oil of the Emba and Ural Caspian Companies.

Kolesnikoff & Sons Petroleum Company.—This company has now transferred its administration to St. Petersburg, where a general meeting of the shareholders has taken place, at which the new administration was appointed.

New Company.—A new company under the name of "Oleonaft" has been formed for the purpose of petroleum exploitations, on the fields of Mr. L. M. Leitis. The capital of the new company is fixed at 2,000,000 roubles.

Shirok Petroleum Company.—Under this name a new petroleum company has been formed, with a capital of 500,000 roubles, for the purpose of petroleum exploitation in the Caucasus and other localities of Russia.

An English Group at Ferghana.—A representative of an English group has arrived at Ferghana in order to negotiate the purchase of large petroliferous fields of the Russian firm of Vladimir Alekseeff.

Siunik Petroleum Company.—The Siunik Petroleum Company is arranging a special general meeting of the shareholders in order to discuss the question of increasing the capital of the company by another 600,000 roubles, thus bringing it up to 1,500,000 roubles.

Liquid Fuel Committee.—The second meeting of the Liquid Fuel Committee will take place at the beginning of next year, and there will be present delegates of various ministerial departments and all the Exchange Committees of the districts which are interested in consumption of fuel.

Siezd of the Grosny Petroleum Producers.—The siezd of the Grosny petroleum producers has been opened. Among the most important points to be discussed are the erection of an electric railway from the town to the fields of a total distance of 25 versts, and also the erection of a telephone combining Grosny, Vladikavkas and Prokhladnaia.

Russian Benzine for Italy.—Italian firms are now interested in Russian benzine, and intend to organise the import of such in large quantities. At present, benzine is imported into Italy principally from the United States, but also from Austria, Roumania and Germany. The most in demand is benzine of a specific gravity 0.750.

New Petroliferous Areas.—In accordance with the new law on land, expropriated by the State from private owners for petroleum exploitation, the Ministry of Trade and Industry originally fixed an area of 12,000 dessiatines in the Surakhani-Amiradjan district at a price of 250 roubles per dessiatine, but now on the basis of results obtained in new boring of deep wells, the Ministry has decided to increase this area by the addition of another 400 dessiatines of land situated at Amiradjan, Bulbudi and Romani at a price of 500 roubles per dessiatine.

Russian Petroleum Society.—At a special general meeting of the shareholders of this company it was decided to increase the capital of the company to 16,500,000 roubles. This increase is justified by the competition of other companies which have at their disposal sufficient capital. The Russian Petroleum Society is now considering an extension of their exploitations by acquiring virgin lands and also fields with a ready production. The new scheme also includes the acquisition of petroliferous plots in the Baku, Grosny and other areas at a price of from 3,000,000 to 4,000,000 roubles, as well as extension of works on lands already under

exploitation. Boring of another 75 new wells at a total cost of 10,000,000 roubles has also been decided upon. The company also intends to lease from the Government new exploration areas on which they will spend during the next two years from 2,000,000 to 3,000,000 roubles on deep boring.

ROUMANIAN.

New Company.—A new company has been formed under the name of "Orientul" for the purpose of refining petroleum products. The capital of the new company is 213,000 francs.

The Steaua-Romana.—The Ministry of Trade and Industry has granted the Steaua-Romana permission to import, duty free, a large quantity of rails for the construction of an additional line connecting the fields with the station of Campina.

Petroleum Exchange at Ploeshti.—The Ministry of Trade and Industry has approved of the creation of a Petroleum Exchange at Ploeshti, and has instructed a special delegate to elaborate a project based upon a thorough study of the question.

Electric Motors for the Fields.—Regulations are published concerning the importation of electric motors for use on the fields. A declaration has to be made to the Ministry stating the kind of motor, its power, and for what it is to be used.

Colombia.—The well No. 1 at Moreni continues to give good results. Certain quantities are being pumped out, and it is expected that the well will soon re-commence a very rich production.

Roumanian-Belgian Petroleum Company.—The capital of this company (now entirely under the control of a Franco-Belgian Group), which was previously reduced from 1,700,000 francs to 1,360,000 francs, has now been increased to 2,000,000 francs. The additional capital is being employed for amortisation and in extending works at Tzintea, Baicoi and Gura, where new wells have been commenced.

Orion.—The well of this company at Tzintea has now entered into regular production and yields by eruptions 100 to 150 tons a day. The well No. 601 "Runcu" will be opened very shortly. Well No. 302 at Gropi continues to yield by regular eruptions from 80 to 100 tons a day, and well No. 501 at Bana yields 25 tons regularly daily. The average production of the company is now 350 to 400 tons a day.

Servian Monopoly and Roumanian Petroleum.—The administration of the Servian State Monopoly for petroleum has decided to obtain its supply of kerosene in Roumania. This result has been obtained owing to the efforts of the Steaua-Romana. The administration of the Servian Monopoly is at present purchasing 8,600,000 kilogrammes of kerosene a year, but the consumption is increasing so that this quantity will soon be considerably enhanced. The administration of the Monopoly has entered into a contract with the Steaua-Romana for the supply of oil during the next five years.

Petroleum Institute.—At a meeting held on the 12th of this month the Minister of Trade and Industry read a project of an international petroleum institute, the administration of which would consist of five delegates of the Ministry and five delegates of petroleum companies. The budget estimated by the Ministry would be 180,000 to 200,000 francs a year, of which 100,000 francs to be supplied by the petroleum companies in the shape of a royalty of 50 centimes per wagon, 50,000 to 60,000 francs to be given by the Roumanian Government, and the rest to be provided by various European Governments, who have promised to help the formation of such an institute at Bucarest.

The Organisation of Boring in the Baku District.

(Translated from "Petroleum.")

UNDER the above heading Mr. Robert Lindtrop contributes to *Petroleum* a very interesting and exhaustive study, of which the following is a short review :—

Among the numerous items of expenditure in petroleum exploitation the most important is that of the boring of wells. While amortisation and capitalisation of all outside buildings, machinery, etc., form but a very slight portion of the total expenditure, the amortisation of the wells alone is by far the largest item of the total expenditure. The boring of a well to a depth of 294 sagenes (2,058 ft.) in the Bebe-Aibat district costs 110,000 roubles, and as a well is generally completely amortised according to the law during five years, and the average exploitation age of it is from four to eight years, the yearly expenditure connected with the exploitation of each well is :—

	Roubles.
Amortisation, eight years at 12.5 per cent.	13,750
Interest at 4 per cent.	4,400
Total	18,150

The average production per well of an average depth of 294 sagenes in the Bebe-Aibat district amounts to 274,000 poods, of which 15.6 per cent. are usually consumed as fuel and about 30 per cent. paid out as royalty to the State, leaving the producer a net total of 162,000 poods. The average price of petroleum during 1906-1911 being 22.12 copecs per pood, the above net production amounts to a gross income of 35,800 roubles, of which sum 18,150 roubles forms 50.7 per cent. The respective figures representing the average yearly expenditure per well in the other districts are :—

Balakhani	57 per cent.
Saboontchi	46 "
Romani... ..	38 "

But, considering that very seldom a well can be exploited for eight years without any interruptions, as during this time it has to undergo thorough repairs, and that wells often prove unsuccessful and have to be abandoned, the yearly expense in amortisation often rises up to 75 per cent. of the total net production. All this undoubtedly proves that the profitable nature of a petroleum exploitation almost entirely depends on the cost of boring, which cannot be reduced unless different methods of production are adopted.

When boring in the Baku district was at its initial stage of development local conditions led to the adoption of the slightly modified Canadian boring method. The petroleum deposits in this district are located in the tertiary strata mostly formed of sands and clays, with here and there stone conglomerations. Stratifications there are mostly horizontal with a feeble incline. The clay has a great tendency to swell and break up, and with a method of dry boring, it is not easy for the columns to penetrate to great depths. Stoppages are also frequent owing to the tendency of sand to form corks in the columns. As several petroliferous strata have to be passed through, which are imbibed with petroleum in a more or less degree, trial baling at various horizons have to be resorted to before a horizon sufficiently rich in petroleum is reached, and when this latter is

exhausted, the well has to be deepened in order to reach a new and sufficiently rich petroliferous horizon.

All these natural local conditions have contributed to the adoption in the district of the so-called special Baku method, which is the Canadian method modified according to local conditions, and which has the following features :—(1) Large diameter of the well at its start (42-36 ins.), necessitating in its turn a 30-sagene column of pipes ; (2) repeated cementing in order to isolate the upper water ; (3) large balers, which in their turn contribute to the well, being of a large bore ; and (4) simultaneous extraction from several horizons, and, consequently, deepening of the well, this being a direct result of costly boring.

The above method of boring has been universally adopted in the Baku district since 1872, with slight modifications from time to time. The derricks are very solid with a floor 7.5 by 7.5 metres and 20 metres high, and are covered with fireproof materials. The wooden bench for the pipes is on a solid foundation and fixed with iron girders. The same foundation also bears the main shaft, the lifting drum and the baling drum. All moving parts of the bench are moved direct from the main shaft with the aid of cog wheels. The power mostly in use is a steam engine of 35 to 40 h.p., but lately electric gas and petroleum motors are being somewhat extensively introduced.

Without going into the technical details of the Baku boring method, we may say that boring by this means is slow, but sure to such a degree that it is quite possible to express all the details in accurate figures and to obtain accurate average results. For this study the author has used materials from boring journals relating to several deep wells exploited by various companies at Bebe-Aibat. Each well has been studied through to its real depth and sometimes even to the cementing, and only the actual time during which boring was performed was considered.

On the basis of all the statistical materials at hand the author has compiled several tables and diagrams illustrating the position of boring at any given moment and at any given depth and explaining the regular fall in the productivity in the boring of a well after a certain period of its exploitation and after having passed consecutively larger and larger depths. This fall in the productivity is due not to the increasing density of the strata to be bored through, but exclusively to the increase of all subsidiary work connected with boring at greater depths, each subsidiary work being lifting up and lowering down of the boring instruments, cleaning the bore from dirt and breaking of the tools, which increases in proportion to the depth attained, which breaking causes an average loss of three to five hours a day. With the Baku method of boring a depth of 400 to 500 sagenes must be considered as the maximum, as the productivity of boring at this depth is a minimum one.

The productivity of boring works decreases also, because of all this auxiliary work which is connected with preparing a well for exploitation. This work generally demands more time than boring itself.

A well of a depth from 350-400 sagenes, with a total diameter of 8-12 ins., must start with a diameter of 42-36 ins., and there is, of course, a great amount of work caused by such a large diameter of columns of pipes, etc. Then, cementing in most cases demands considerable time. Cementing serves, of course, for strengthening the action of casing columns, but usually it is undertaken for the purpose of shutting off the water.

(To be concluded).

THE DECLINE OF OIL-PRODUCING WELLS.

POSSIBLE CAUSES AND SUGGESTED REMEDIES.

By Mr. L. G. HUNTLEY.

(Continued from page 666.)

CARRL states that as a rule the first wells drilled in a new pool have greater productiveness than those drilled later, but that if the first wells are drilled at the edge of a pool in poor rock, wells subsequently drilled at the centre of production will drain the pioneer wells, whose high initial yield is largely due to the original rock pressure being sufficient to counterbalance the effect of the tight, close sand.

As illustrative of the conditions mentioned Carrl cites the National well No. 1, drilled in February, 1866, and situated a few rods from the National No. 2, in the Pleasantville district.

"It was very near the edge of a large and well-stored pool, and passed through rather an inferior oil rock, as compared with that afterwards found on the axis of the belt; still it had a sufficiently free connection with the supply reservoir to furnish a delivery of about 85 barrels per day, and it maintained its production with wonderful constancy for two years, having declined only to about 60 barrels in that time. In the summer of 1868 wells were drilled in the main pool from which it had been deriving its supply. Some of these wells produced as much as 150 barrels per day. The effect upon the National was immediately apparent. Its production dropped off rapidly and dwindled down to 10 barrels or less per day.

"The Harmonial well No. 1 was on the northern edge of the Pleasantville belt. The main body of oil and the best sand rock, as was afterwards demonstrated, lay to the south. It started with a small yield, and at the end of a fortnight was pumping about 30 barrels per day. Gradually increasing its production, as if enlarging and cleaning out the passages leading into the supplying reservoir, it finally commenced to flow and ran up to 125 barrels, where it remained until wells of larger flow were drilled in the centre of the belt and relieved the gas pressure, when pumping had to be resumed. After this it soon fell down to an unremunerative production and was abandoned."

The sketch on page 666 of last week's issue showed oil occurring on a monoclinical dip, above a water-saturated zone in the sand. The water level is considered as practically non-encroaching. As the oil body shrinks, owing to the pumping of the wells, the upper level will drop, and wells situated as at A will fail, possibly developing a little gas production, followed by the failure of wells, as at B. Meanwhile a well, as at C, is probably pumping somewhat more water with the oil than are the others, and may perhaps be entirely flooded, leaving wells situated as at D as the longest-lived wells in the field.

The position of an oil property with respect to producing territory should be studied carefully, for the knowledge to be gained from such study will be of much assistance in arriving at a fair valuation of the property.

Practically, so far as the oil man is concerned, an oil-bearing rock before being drilled may be considered as a "sealed reservoir," and as oil and gas are recovered from it their places will always be taken by some other medium, as nature tends to restore equilibrium. This replacement may be made by the expansion of gas from the same formation, or by air admitted through wells; but in most fields this replacing agent is salt water from the same stratum, fresh water from the surface seeping through old wells, or water entering from an overlying formation through badly packed or carelessly plugged wells.

Carrl says in this connection: "The flooding of an oil district is generally viewed as a great calamity, yet it may be questioned whether a larger amount of oil cannot be drawn from the rocks in that way than in any other: for it is certain that all the oil cannot be drawn from the reservoir without the admission of something to take its place." This something may be gas or water from the surrounding rocks or air entering through older wells.

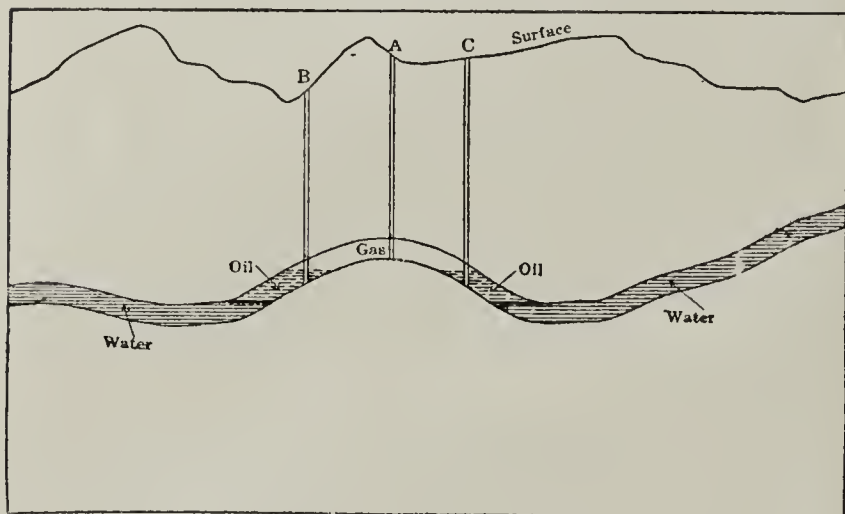
Encroachment of salt water may result from what may be called oil and gas displacement. If the salt water lies in the lower part of a porous formation overlain by the oil, both being under pressure of the gas above, and if a well taps both the oil and the water, the gas pressure above the pool, acting downward on the oil and the water, causes them to rush to the well outlet. If the water is in greater quantity than the oil, it will often in a short time flood the well entirely, the oil and the gas forcing their way downward into the formation to take the place of the expelled water. The oil is thus lost beyond recovery, and the well continues to produce nothing but large volumes of water. In pools like the Bird Creek pool, and certain other Northern Oklahoma pools, the initial wells were abandoned in some parts of the district, whereas, after the gas pressure had been diminished as a result of drilling other wells, it would have been possible to have pumped oil from the top of the sand without being troubled by water, because the water would then have been under less pressure. These early wells, which were allowed to blow wide open, also caused the waste of enormous quantities of gas.

True encroachment to restore equilibrium may occur in a field where there is a strong hydrostatic head counterbalanced by the gas pressure existing in an oil pool, or by a corresponding head of oil, as shown in the first sketch on the next page. As the gas is drained through well A, the water advances until wells B and C are flooded, and the pool fails from its outer edges inward until possibly well A produces a little oil along with some water, and in its turn is finally flooded.

By studying the direction of flow of encroaching water certain wells can sometimes be reserved to be

pumped for water alone, thus protecting the others of the group or pool from encroachment. Where a few large operators control production in a certain pool, co-operation in the study of such conditions and concerted action may result in a larger recovery of the oil in the pool than would be had by any other means. When many small operators are drawing from a pool water encroachment is seldom made an ally instead of an enemy.

As a result of the encroachment of water, part of the oil is crowded into the roof of the porous formation,



How true encroachment of water occurs.

and part advances ahead of the water, changing the relative status of the remaining wells with regard to the rest of the pool, and perhaps materially changing the shape and position of the remainder of the pool. The oil, crowded into the roof of the formation, or caught in "crowns" or irregularities, causes some water wells to continue to produce a little oil with the water, even though all the surrounding wells produce only water. This condition is illustrated in the second sketch, which shows a pocket of oil retained by a porous lens in the sand after the encroachment of water.

Salt water encroachment may also occur where the oil acts as the only force to restrain the encroachment. As wells are pumped drainage channels are set up in the sand, and water begins to follow the oil as the oil seeps toward the wells until only water wells exist. This form of encroachment is really a modification of the second case mentioned above, but can be more easily utilised to aid in draining a pool effectively.

Again, considering the oil sand as a "practically sealed reservoir," obviously something must be introduced to take the place of the oil that is being pumped out. A body of water under moderate pressure behind the oil will probably aid in moving the oil toward the wells as they are pumped, and will result in the least possible amount of oil being left behind in the formation when the pool is finally abandoned.

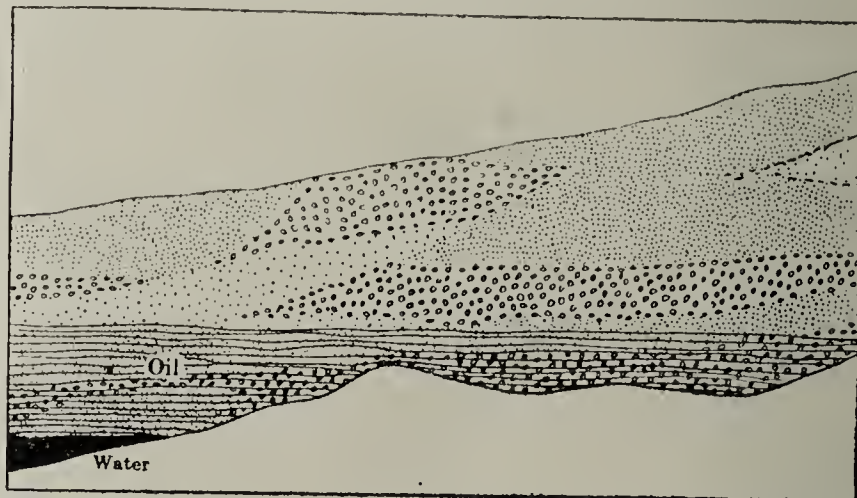
The occurrence of water in the lower part of the same porous formation in which the oil is encountered is frequent in pools where the rocks lie almost level. Where such a condition exists, care is usually exercised to stop drilling just short of the water. However, an uneven formation may make it impossible to judge with certainty when to stop drilling. Possibly cleaning or shooting a well may cause it to break through into the water below, or an influx of fresh water from the surface or from an overlying formation may raise the water level above that originally existing in the oil sand. In such cases oil and water are pumped together,

and in many cases the total amount of water decreases in the course of time. However, certain classes of mineral water tend to "cut" the oil and cause the formation of obstructive waxes. It is believed that in some pools pumping the water with the oil is an aid to the oil recovery, the water tending to "flow" the oil towards the well.

In Oklahoma the high gas pressure in the early days of some pools has blown out such large quantities of water with the gas that many wells have had to be abandoned. When the pressure in such wells has decreased they may be pumped to advantage, and may produce oil in large quantities, or by keeping the pressure of the gas as a restraining agent by using only a small percentage of the capacity of the well, the water may be kept back and oil only recovered.

Owing to defective packers, to lack of care in plugging abandoned wells, and to accidents in drilling and casing, water is admitted to many oil-bearing formations from the surface or from an overlying water-bearing stratum. Depending upon conditions, this admission of water may have any one of several results.

If the volume of water is small, such as that seeping around a defective packer, or that due to temporary flooding before the packing is inserted, it may aid in the recovery of the oil by furnishing the medium



Effect of water encroachment.

necessary to take the place of the oil pumped out, thereby increasing the production of a well or group of wells.

If the quantity of water is large and the thickness of the porous formation is small, the water may force the oil back so far that it cannot be recovered from the well affected. The inflow of water may, however, benefit other wells in the vicinity, helping the movement of the oil in other directions, and, the field being considered as a whole, may replace the oil pumped out and aid in its recovery. The pressure exerted by the column of water in a deep well is great, especially if the volume of water entering the well is sufficient to keep the column constant.

(To be continued.)

THE TRINIDAD OILFIELDS, LTD.

ACTIVE DRILLING OPERATIONS.

On Monday the fourth ordinary general meeting of the Trinidad Oilfields, Ltd., was held at Winchester House, Old Broad Street, E.C., the Hon. Thomas Cochrane (chairman of the company) presiding.

The Secretary (Mr. R. G. Longcroft) having read the notice convening the meeting and the report of the auditors.

The Chairman said that a great deal of time and labour had been taken up in conducting negotiations, which were reported to shareholders earlier in the year. It would be recollected that at the meeting of shareholders and debenture-holders on April 11th last resolutions were carried confirming an agreement to grant an option to the United West Indies Petroleum Syndicate to acquire the property of that company upon certain terms. Intimation was given to them on that date that the option would be exercised, but it was not until August 11th that the management of the property was assumed by the new company, the new company itself having been incorporated a month earlier. Under the terms of the agreement the Trinidad Oilfields, Ltd., had been carrying on business on behalf of the new company since May 10th last, and on completion of the purchase they would be repaid the money they had advanced for this purpose, together with interest, and would receive the 285,000 "C" shares to which the company was entitled, the "B" shares and 15,000 of the "C" shares being allotted to the debenture-holders. The representatives of the purchasers in Trinidad had now expressed their approval of the company's title to the properties to be conveyed, and it was hoped that the purchase would be completed before the end of the present month.

As he had informed the shareholders at the last meeting, they had engaged Mr. Feisthamel to undertake drilling by contract, and their judgment in engaging him for the work had been justified, partly by the fact that he had been engaged by the new company as superintendent, and also by the remarkable drilling results secured during the period of his engagement with them. He sank several wells with great rapidity, and, in particular, one well—No. 22—was sunk to the depth of 1,400 ft. and completed in ten days, or an average of 140 ft. per day, thus proving that wells could be sunk cheaply and rapidly on the property. The satisfaction they might justly feel in this connection had, however, been qualified by the disappointment caused by the sanding up of the wells. Almost invariably when the oil sands were penetrated there had been a flow of oil, of an apparently most satisfactory quantity, and sufficient, if it continued unchecked, to have speedily placed the company in a prosperous condition. The sanding up of the wells was principally due to the immense pressure of petroleum gas, which was released when the oil penetrated the oil sands. It was believed that when more wells were sunk the gas pressure would be relieved, and also means would be devised of preventing the sand from choking the wells. In October and November last year Mr. Thompson paid a prolonged visit to the property, returning again in January, and reported on February 6th that the railway had

been put into good order; the stores well kept; that the foundations of all the main storage tanks had suffered through the rains, but steps were being taken to repair the damage; that all piles of the jetty were encased in concrete last year, thus strengthening the jetty, and that he found that no complaint could be lodged against the plant and material in any direction.

On May 11th information was given to them that the option would be exercised, but it was not until August that the syndicate consented to take over the management of the property. At the request of the syndicate, early in April, notice was given to the whole of the staff to terminate their engagements. In the interregnum between May 11th and August 1st work was carried on to the best of their ability, but with the whole staff under notice to leave, it was scarcely surprising, therefore, that the production and upkeep should ultimately suffer. Considerable damage was occasionally caused by tools dropping into wells, and even under the most careful supervision this could not always be prevented. An instance had occurred in the past few weeks, for on November 27th the new manager reported that well No. 28 was taken in hand again on September 19th, and had been deepened to 1,140 ft., at which depth there was a blow-out and show of oil, the cable being broken and the tools lost. It was satisfactory that the well was subsequently cleaned out and the production from it for the week ended November 29th was 150 tons. The board had been in negotiation with the Government to secure some alteration and improvement in the terms of their lease. Under the conditions laid down by the Government there was an obligation to drill a certain number of feet each year upon each area of land over which a licence from the Crown had been granted. In their representations to the Government they had been supported by the new company, who were now engaged in completing the negotiations, and he was glad to inform the shareholders that the whole of the lands under the Crown lease were consolidated and the drilling obligations applied to these lands as a whole. The extent of the property had been further added to by an area of 500 acres, which cut into a part of their property. The board would be relieved if they were in a position immediately to wind up the company, but they were advised that it would not be to the interests of shareholders to do so at present. There were certain assets to be realised and claims to be dealt with, some of which might involve legal proceedings. In conclusion, he moved the adoption of the report and accounts.

Sir Corbet Woodall seconded the resolution, which was carried unanimously.

On the motion of Sir Corbet Woodall, seconded by Mr. H. C. B. Underdown, the Hon. Thomas Cochrane was re-elected a director, and on the motion of the chairman, seconded by Mr. Underdown, Sir James Pender, Bart., was also re-elected.

The auditors (Messrs. Deloitte, Plender, Griffiths & Co.) having been reappointed and a vote of thanks accorded to the chairman, the proceedings terminated.

Commandit-Gesellschaft für Tiefbohrtechnik.

TRAUZZL & CO., VIENNA.

IV/2 WIEDENER-GURTEL No. 2 (Heugasse 80).

COMPLETE OIL-WELL BORING OUTFITS.

Speciality: "Rapid" Driller.

Employed on the Oilfields of Galicia, Roumania, Russia, Java, Sumatra, Texas, etc.

Technical Agent: Tech. Bureau, "Insulinde,"

G. J. A. STEEN,

Amsterdam, Keizersgracht 194.

Supplies all Materials for Oil and Coal Drilling, including Cables, Casings, Stratameters, etc.



The American Oil Market.

Saturday, December 6th, 1913.

THERE is no further change to be noted in the crude situation, says the *Oil Paint and Drug Reporter*, and interest centres in the report of operations in the various fields of the country during November. In high-grade Pennsylvania fields there was a general decline in completions and new production as compared with the returns for October, but the record of operations for eleven months of the year, while showing a marked gain in completions over the corresponding period of last year, is noteworthy in presenting a sharp decline in new production.

The week's review of operations in the Eastern fields shows a material gain in completions with the corresponding increase in new production. West Virginia, South-eastern Ohio, and Illinois, were the factors for the more favourable showing in new wells, while Pennsylvania, West Virginia, South-eastern Ohio and Indiana scored gains in new production. Roane county is completing a large number of wells, and some of them are much beyond the average. The best producer in the county for the week was a well that came in at the rate of 200 barrels the first twenty-four hours. Harrison county is another active section of West Virginia and good wells are reported in the Sardis district. A well of exceptional capacity was drilled in Monongalia county; its output for the first forty-eight hours was reported as 270 barrels. An occasional good producer is reported in Kanawha county, but the new wells, as a rule, are not of a capacity to offset the decline in the old producers. During the week a 75-barrel well was drilled in the Blue Creek Section. The week's completions in the South-eastern Ohio fields have not been of particular interest, with the exception of a well reported for 200 barrels in the deep-sand territory of Fairfield county. A large amount of new work is in progress in the Union Furnace district of Hocking county, and some of it is important as to location.

Favourable weather conditions have stimulated operations in Kentucky, and more attention is being given to test drilling in advance of the present activity. The drilling of a good well in advance of production in Lawrence county is encouraging further tests in that direction. Morgan county operations are extending over a wide area and comprises more extensive wildcat drilling than any other section. In the established fields of the State wells have been of a medium calibre. In the Lima fields of North-western Ohio and Indiana during the week the most favourable showing is in the Indiana end, due to the bringing in of several good producers in the Shelburn pool of Sullivan county. The week's record for this field shows six completions, five of which were good for an average daily total of 440 barrels. There was a material decline in the week's new production in the Ohio section. The most favourable showing was in Allen county, four wells coming in with a daily total of 100 barrels. Despite an increase in the number of new wells in Illinois, new production failed to meet that of the former week. The recent wildcat tests in Illinois have lent little encouragement to operations in advance of the defined fields, but operators are keen to take advantage of any promise for the development of new

pools whereby the declining tendency of the State's general production may be counterbalanced.

The week's review of the Gulf Coast field showed material gain in completions and a proportionate increase in new production under the more favourable conditions. The greatest proportionate increase in the number of new wells was in South-eastern Texas, but the most creditable shown, so far as general results are concerned, is noted in the Panhandle-Texas field. The feature of the week's completions in this field was a 450-barrel well in the Electra district. The most interesting strike in the Louisiana fields for the week was a large gas well near Oil City. The Caddo field shows a slight gain in new production, and the total output of the field is now a little more than 29,000 barrels a day. November statistics on the Gulf coast operations show a total of 177 completions, 9,754 barrels of new daily production and 56 dry holes and gas wells, comparing with 154 completions, 18,429 barrels of new daily production and 48 dry holes and gas wells for October. The setback in new productions last month was in the Louisiana and South-eastern Texas fields.

Refined Products.

The local illuminating oil market has followed practically unvaried lines during the interval, and there has been little to invest it with new significance or interest. General conditions are regarded as contributing an element of inherent soundness, and there is little doubt that requirements are within a fairly good range of production.

CLOSING QUOTATIONS.

CRUDE AT THE WELLS.

The quotations for oil represented by credit balances were:—

	1912. Dec. 6.	1913. Dec. 6.
Pennsylvania	\$1.60	\$2.50
North Lima	1.04	1.39
South Lima	0.99	1.34
Indiana	0.99	1.34
Illinois, above 30 degrees	0.87	1.30
Kansas and Oklahoma	0.70	1.03
Humble, Tex.	0.75	0.90
Saratoga	0.75	0.90
Sour Lake, Tex.	0.75	0.90
Californian, Coalinga light	0.65	0.60
" Kern River heavy	0.35	0.35
CANADIAN OIL	1.44	1.79

REFINED—FOR EXPORT.

In cents.	Week ended Dec. 6. S.W. 110 test.	W.W. 150 test.
Bulk, New York ... per gal.	5.00	6.00
Barrels, New York, cargo	8.70	9.70
Barrels, Philadelphia	8.70	9.70
Cases, New York	11.00	12.00
Cases, Philadelphia	11.00	12.00

NAPHTHA AND GASOLINE.

Naphtha, in wooden barrels	21
Gasoline, 86 deg.	29½

REFINED IN CASES—110 FIRE TEST.

3,000 to 10,000	\$11.15
1,000 to 3,000	11.25

REFINED—JOBGING LOTS.

In barrels, pkgs. included.

130 fire test, S.W.	11½
150 fire test, W.W.	12
From tank wagons	8½-9

TOTAL EXPORTS.

	Current week. Gallons.	Since Jan. 1, 1913. Gallons.	Since Jan. 1, 1912. Gallons.
Crude	10,168,985	188,225,174	112,389,930
Refined	27,905,155	854,172,212	875,849,366
Naphtha	1,539,290	112,328,823	116,594,168
Gas oil	7,500	31,962,715	58,333,155
Fuel oil... ..	4,349,500	119,488,429	93,805,130

HOME AND FOREIGN MARKET INTELLIGENCE.

LONDON OIL MARKET.

Supplied by Messrs. BENJAMIN & Co, 61, St. Mary Axe, E.C.

December 23rd, 1913.

The market prices of Refined Petroleum are as follows:—Roumanian, 8d.; Russian, 8½d.; Galician, 8d.; American, 8½d.; American Water White, 9½d.

LUBRICATING OILS

remain unchanged as under:—

No. 1 Russian, £12. 2s. 6d.

No. 2 Russian, £10. 17s. 6d.

American pale, from £9. 12s. 6d.

American dark, from £11. 2s. 6d.

American filtered cylinder, from £13. 2s. 6d.

FUEL OIL

The price is 70s. per ton, in bulk, ex wharf.

GREASE-MAKING OIL

is quoted 80s. per ton, in bulk, ex wharf

MOTOR SPIRIT

The retail price in London is 1s. 9d. per gallon for the best quality and 1s. 7d. per gallon for the second quality.

TURPENTINE.

American Turpentine is very firm, quotations being for spot, 32s. 6d.; January, 32s. 7½d.; May/August, 33s. 6d.

LIVERPOOL.

December 23rd.

Petroleum oils have a steady sale, and former currencies are asked for Refined, 8½d. being still quoted for Russian, and 9d. to 10d. per gallon for American.

Petroleum spirit moves off fairly well.

INDIA.

BOMBAY, November 26th.

The following are the current prices of the Standard Oil Company of New York:—

	Rs.	a.	p.	
Snowflake Brand, 150 deg., American	...	6	0	2 per case.
White Rose Brand, 150 deg., "	...	5	12	2 "
Chester Brand, 75 deg., Abel	...	5	2	2 "
Devoe's Imp. Brilliant, 76 deg., Abel	...	5	0	2 "
Monkey Brand, 125 deg., American	...	4	14	2 "
Tiger Brand in tins, 125 deg., American	...	4	14	2 "
White Camelia Brand in tins, 125 deg.	...	4	5	0 per 2 tins.
Elephant Brand, 125 deg. (bulk in tins)	...	4	5	0 "
Elephant Brand, 125 deg. (bulk without tins)	...	3	11	0 per 8 I. gal.
Camel Brand, 125 deg.	...	4	5	0 per 2 tins.

The prices of the Asiatic Petroleum Company, Ltd., are as follows:—

	Rs.	a.	p.
Rising Sun Brand, Bulk, Loose, per unit	...	3	13 0
Rising Sun Brand, New Tins, per pair	...	4	7 0
Bull Brand, Bulk, Loose, per unit	...	3	11 0
Bull Brand, New Tins, per pair	...	4	0 6
Swan Brand, Bulk, Loose, per unit	...	3	2 6
Swan Brand, New Tins, per pair	...	3	12 6
Anchor Tins, per pair	...	4	8 0
Shell 150 deg. cases, per case	...	5	8 0
Anchor cases, per case	...	5	0 0

The following are the current prices of the Burmah Oil Company's production:—

	Rs.	a.	p.
Bazaar Rates—Delivery charges extra.			
Kerosene Oil "Waterlily," per case of two tins	...	5	4 0
" Firefly, per case of two tins	...	4	15 0
" Chukker, per two tins	...	4	5 0
" " per 8 gallons	...	3	11 0
" Victoria, per two tins	...	3	11 6
" " per 8 gallons	...	3	1 6
Burmah Wax, per pound, 1st quality	...	0	4 0
" " 2nd quality	...	0	3 0
" Candles, per pound	...	0	4 0

AMERICA.

NEW YORK, December 22nd.

Refined, in cases, is quoted at 11.25; Standard White, 8.75; Credit balances, 2.50.

PHILADELPHIA, December 22nd.

Standard White is quoted at 8.75.

GERMANY.

HAMBURG, December 23rd.

The petroleum prices remain unchanged. The demand for kerosene begins to be lively, that for benzine decreasing. American and Galician, 8.85; Russian and Roumanian, 8.85. Motor spirit, first quality 37.00–38.00, second quality (0.750–0.770 gravity) 32.00–33.00.

RUSSIA.

BAKU, December 23rd.

The tendency of benzine is lower, that of gas oil and lubricating oils higher. Crude oil is quoted at 38½–38¾ copecs per pood spot. Kerosene, 49–50 copecs. Residuals, 37½–38 copecs.

ROUMANIA. December 23rd.

The export of petroleum is for the moment very restricted. The latest prices are:—

Crude oil from different fields, including pipe-line charges, per 100 kgs.	Bushtenari	Francs.
" " " Moreni	...	7.00–8.00
" " " Tzintea	...	5.50–6.25
" " " Policiori	...	5.00
" " " Bana	...	9.50–10.80
Paraffin	...	125

PRICES FOR EXPORT.

Refined oil, f.o.b., per 100 kgs.	...	9.25–9.50
Benzine, sp. gr. 0.710–0.715, f.o.b.	...	28.00–29.00
" sp. gr. 0.715–0.720, f.o.b.	...	26.00–26.50
" sp. gr. 0.730–0.740, f.o.b.	...	18.00–19.00
" sp. gr. 0.740–0.755, f.o.b.	...	18.00–18.50
Residuals, f.o.b. Constanza	...	7.00–7.50
Gas Oil	...	8.00

AUSTRIA. December 23rd.

Crude oil is quoted 8.58 kronen spot. Kerosene, 29½–30 kronen at Oderberg. Benzine, 690/700, 45 kronen; 700/710, 43 kronen, at Oderberg. Gas oil, 7.50 kronen at Oderberg. Paraffin, on the basis 50/52, 58.75 kronen.

THE TIN PLATE MARKET.

Messrs. Norton, Owen & Co., of 4, Bishopsgate, London, E.C., report under date December 23rd as follows:—

A considerable amount of business is passing, and the market is steady at last week's prices, as under:—

1c 18¾ × 14	124 sheets	110 lbs.	13/3 to 13/4½ per box.
1c 20 × 10	225 "	156 "	18/7½, 18/9 "

F.o.b. Swansea. Tin lining and iron hooping extra, as usual.

BORE HOLES for OIL

Contracted for by

JOHN M. THOM,

Canal Works,

Patricroft, MANCHESTER.

CONTRACTOR TO H.M. GOVERNMENT.

Imports of Petroleum Products into the United Kingdom.

Specially prepared for this Journal by the Customs House.

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FOR THE WEEK ENDED DECEMBER 20TH, 1913 (excluding any Imports which may not be disclosed)—

DATE.	PORT AND IMPORTERS.	DESCRIP-TION.	NO. OF GALS.	PORT WHENCE.
Dec.	LONDON—			
16	E. G. Boize ...	Lub. Oil and Gr.	130	Hamburg
16	A. Duckham & Co. ...	Lub.	40	Antwerp
16	Mordaunt Bros. ...	"	4,200	New York
16	" ...	M. Colza	4,200	"
16	Langley, Smith & Co. ...	Lub.	9,270	"
16	Anglo-American Oil Co. ...	"	110,600	"
16	Scott's Wharf ...	"	7,000	"
16	G. W. Sheldon & Co. ...	Lub. Gr.	400	"
16	J. W. Cook & Co. ...	Lub.	53,440	Philadel.
17	Port Authority ...	"	3,450	Hamburg
17	" ...	"	3,600	"
17	Vacuum Oil Co. ...	"	80	Antwerp
17	" ...	"	20,720	New York
17	" ...	Lub. Gr.	5,260	"
17	Mercantile Lighterage Co. ...	Lub.	10,000	"
18	Kidstone & Co. ...	Lub. Gr.	2,600	"
18	Hanseatic Maritime Agency	Lub.	40	Bremen
18	J. Taylor ...	"	650	Philadel.
18	Ocean Oil Co. ...	"	2,840	Bordeaux
19	L. Freeland ..	Lub. Oil and Gr.	960	Antwerp
19	Asiatic Petroleum Co. ...	Benzine	5,000	Rotterdam
20	J. Thompson... ..	Lub. Gr.	2,590	New York
20	F. Chiesman & Co. ...	Lub.	18,110	"
20	Lubricating & Fuel Oils Co. ...	"	16,400	Philadel.
20	Gerhard & Hey ...	"	360	New York
20	Anglo-Mexican Petroleum Products Co.	Crude	4,400	P. Mexico

LIVERPOOL—				
15/10	Anglo-American Oil Co. ...	Lamp	26,300	New York
16	J. T. Fletcher & Co. ...	Lub.	380	Antwerp
16	W. Gibson & Sons ...	Lamp	2,050	Boston
17	Tedcastle, McCormick & Co. ...	Lub.	150	Rotterdam
17	Burnaby & Chantrell ...	Lub. Gr.	2,050	Hamburg
17	Liverpool Warehousing Co. ...	Lub.	400	New York
17	Vacuum Oil Co. ...	Lub. Resid.	8,000	N. News
18	Worthington & Boler ...	Lub.	4,280	Philadel.
18	Crew, Levick & Co. ...	"	13,760	Stettin
18	Anglo-American Oil Co. ...	"	623,640	New York
19	Crew, Levick & Co. ...	"	62,070	Philadel.
19	" ...	M. Colza	6,260	"
19	Bowring Petroleum Co. ...	Lub.	6,520	"
19	W. B. Dick & Co. ...	"	2,000	"
19	Vacuum Oil Co. ...	"	2,020	"
19	A. Hopps & Sons ...	"	2,600	Baltimore
20	Pickford's ...	"	2,600	"
20	Bramwell, Fern & Co. ...	"	6,250	Philadel.
20	American Line ...	"	3,200	"
20	" ...	M. Colza	6,000	"

BRISTOL—				
11/11	British Petroleum Co. ...	Gas	71,100	Port Arthur
16	J. R. Bush ...	Lub.	77,800	New York
19	First Anglo-Russian Oil Co. ...	"	2,180	"
20	C. Hill & Sons ...	"	4,880	"
20	H. Pritchard & Co. ...	"	2,650	"
20	Pickford's ...	Lub. Oil and Gr.	90	Hamburg

HARWICH—				
17	Great Eastern Railway ...	Lub.	1,000	Antwerp
18	" ...	"	160	"
19	" ...	"	40	"
19	" ...	"	2,400	Hamburg

HULL—				
18	Anglo-American Oil Co. ...	Lamp	530,500	Philadel.
18	T. Wilson, Sons & Co. ...	Lub.	200	Bergen
18	" ...	"	12,000	Copenhagen
18	" ...	"	11,520	New York
18	" ...	"	600	Riga
18	Wilson's & N. E. Railway ...	"	2,000	Antwerp
18	" ...	"	360	Hamburg
19	" ...	"	6,080	"

MANCHESTER—				
16	Meade-King, Robinson & Co. ...	Lamp	9,680	Philadel.
16	" ...	Lub.	38,360	"
16	Bramwell, Fern & Co. ...	"	22,400	"
16	" ...	"	9,140	New York
16	F. Schofield & Co. ...	"	5,200	"
16	D. Currie & Co. ...	"	220	Hamburg
17	W. Hodgson & Co. ...	Lub. Oil and Gr.	120	Antwerp
17	J. T. Fletcher & Co. ...	Lub.	40	"

DATE.	PORT AND IMPORTERS.	DESCRIP-TION.	NO. OF GALS.	PORT WHENCE.
Dec.	MANCHESTER—			
17	H. Barlow & Sons ...	Lub. Gr.	880	New York
17	Crew, Levick & Co. ...	M. Colza	1,270	Philadel.
17	" ...	Lub.	9,620	"
17	Anglo-American Oil Co. ...	"	4,180	"
17	McLiners, Ltd. ...	"	2,780	"
19	Bramwell, Fern & Co. ...	"	620	New York
19	W. Hodgson & Co. ...	"	12,170	"
19	Worthington & Boler ...	"	2,400	"
20	F. Leyland & Co. ...	"	400	"
20	Anglo-American Oil Co. ...	"	560,100	"

NEWCASTLE—				
17	P. H. Matthiessen & Co. ...	"	240	Bergen

NEWPORT—				
17	M. Jones Bros. ...	"	3,540	Antwerp

SWANSEA—				
18	R. Turpin & Co. ...	"	2,560	New York

SUNDERLAND—				
17	Anglo-American Oil Co. ...	Lamp	433,760	Philadel.

ABERDEEN—				
18	R. C. Reid & Co. ...	Lub.	2,460	Hamburg

GLASGOW—				
16	Clyde Shipping Co. ...	Lub. Oil and Gr.	9,410	Antwerp
17	Anchor Line ...	Lub. Gr.	4,300	New York
19	Donaldson Bros. ...	M. Colza	1,400	Baltimore

GRANGEMOUTH—				
15	Jas. Currie & Co. ...	Lub.	200	Hamburg
16	" Order" ...	Fuel	567,000	Kustendje
16	J. Rankine & Son ...	Lub. Gr.	1,930	Rotterdam
19	W. G. Yooll & Co. ...	Lamp	1,600	Hamburg

LEITH—				
16	Jas. Currie & Co. ...	Lub.	1,000	"
19	" ...	"	40	"
19	G. Gibson & Co. ...	"	240	Antwerp

3,501,690

Add—

BOSTON—				
20	W. F. Beaumont ...	Lub.	730	Hamburg

GRIMSBY—				
19	J. Sutcliffe & Son ...	"	500	Antwerp

HARWICH—				
20	Great Eastern Railway ...	"	130	"

HULL—				
20	W. Gilyott & Co. ...	"	15,160	New York

NEWCASTLE—				
18	Tyne-Tees Steamship Co. ...	"	1,200	Antwerp

ABERDEEN—				
19	R. C. Reid ...	"	1,400	Hamburg

BELFAST—				
16	J. C. Pinkerton ...	Lub. Gr.	200	Antwerp
20	" ...	Lub. Oil and Gr.	400	Hamburg

3,416,240

Deduct—

LONDON—				
22/11	Anglo-Saxon Petroleum Co. Crude		3,100	Trinidad

LIVERPOOL—				
25/8	Pickford's ...	Lub. Oil and Paste	620	Hamburg
6/10	Anglo-American Oil Co. ...	Lamp	33,340	Philadel.
12/11	" ...	Gas	38,390	Sabine

BARROW—				
10/11	Anglo-American Oil Co. ...	Lamp	2,700	New York
22/11	British Petroleum Co. ...	Fuel	24,820	Bizerta

BRISTOL—				
4/11	Anglo-American Oil Co. ...	Lamp	700	New York
4/11	" ...	Lub.	1,500	"

3,396,520

From Lloyd's

DECEMBER 22ND, 1913.

THE "REVIEW" SHIPPING LIST.

The following abbreviations are used in this table:—L. Left. Pd. Passed. Arr. Arrived. Sp. Spoken. T. Trading. Cl. Cleared
The Anglo-American Co.'s vessels marked thus (*). The Anglo-Saxon Co.'s tankers thus (Δ). Messrs. Lane & Macandrew's thus (□).

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
ADORNA	San Francisco	Pisagua	L. Dec. 10	DESALBA	Tyne	Port Harford	40 miles S.W. of
AMERICAN	Antwerp.....	New York ...	Pd. Lizard Dec. 10			(Calif.)	Land's End Dec. 3
APPALACHEE*	Sunderland ..	New York ...	Pd. Dunnet Hd.	DEUTSCHLAND	Gothenburg	Baton Rouge	Arr. New Orleans
			Dec. 21		& Tyne		Dec. 19
APSCHERON	Antwerp.....	Batoum	L. Dec. 17	DIAMANT	Philadelphia.	Swinemunde	L. Dec. 17
ARAL	Kustendje ..	Blexen	Pd. Gibraltar	DONAX	Singapore ...	Gibraltar ...	Arr. Suez Dec 19
			Dec. 16	EBURNA	Tyne	—	Pd. Perim Dec 9
ARAS	Sabine	Hamburg ...	L. Dec. 12	EDWARD L.	New York ...	Tampico	Pd. Sand Key
ARCA	Rangoon.....	—	Pd. Gibraltar				Nov. 21
			Dec. 17	DOHENEY			L. Dec. 13
ARTHUR VON	Bergen	Bremerhaven	Arr. Nov. 30	EL LOBO	Lobitos	—	L. Dec. 13
GWINNER				EL SEGUNDO	Seattle	San Francisco	L. Nov. 17
ASHTABULA*	San Francisco	Antofagasta	L. Nov. 28	EL TORO	Tyne	Galveston ...	Arr. Amsterdam
ASTRAKHAN	Tyne	—	Pd. Constanti-				Dec. 15
			nople Dec. 15	ELAX Δ	Barrow	New Orleans.	Off Pt. Lynas
AUREOLE	Port Arthur	Antwerp &	Arr. Antwerp				Dec. 4
		London	Dec. 18	ELISE MARIE	New York ...	Malmo &	L. Dec. 11
AZOV	San Francisco	Talara Bay...	L. Nov. 12			Helsingborg	
BAKU STANDARD...	Hamburg ...	Kustendje ...	Arr. Dec. 16	ELSINORE.....	Emden	Amsterdam ..	L. Dec. 17
BALAKANI □	Port Reading	Jacksonville.	Arr. Dec. 16	EMANUEL NOBEL...	Batoum	Antwerp.....	Pd. Dardanelles
BATOUM	Port Arthur.	Devonport ...	L. Newport				Dec. 16
			News Dec. 17	ENERGIE	New Orleans	Havana	Cl. Dec. 5
BAYONNE	—	—	Pd. Dardanelles	ERIVAN	Batoum &	St. Louis,	Arr. Dec. 16
			Dec. 18		Genoa	Rhone	
BEACON LIGHT	Plymouth ...	Newport	Arr. Dec. 17	ESTURIA	Newcastle,	Balek Pappan	L. Dec 15
BLOOMFIELD	Tuxpan	New York ...	L. Dec. 10		N.S.W.		
BORJOM.....	Kustendje ...	Trieste	Arr. Dec. 14	EUPION	Alloa	Sunderland	Arr. Nov. 29. In
BRILLIANT (Br. Bq.)	Philadelphia.	Kobe	Arr. Aug. 10. In				port Dec. 12
			port Oct. 29	EUPLECTELA Δ	Alexandria...	Colombo	Pd. Perim Dec 15
BRILLIANT	Dantzig	Sabine.....	Pd. Lizard	EXCELSIOR	New York ...	Rotterdam ...	L. Dec 13
			Dec. 19	F. A. TAMPLIN	London	P. Mexico ...	Pd. Lizard Dec. 6
BRITISH SUN	Batoum	Antwerp.....	Pd. Dardanelles	FRANCE MARIE.....	Tampico	Port Arthur	L. Nov. 10
			Dec. 16	(Belgian Ship)			
BROADMAYNE	Dartmouth...	New York ...	L. Dec. 22	FUMI MARU	Shimonoseki.	Kobe	L. Nov. 27
BUFFALO	San Francisco	Hong Kong..	L. Nov. 24	GEESTEMUNDE	Tampico	New York ..	Arr. Dec. 13
BULLMOUTH Δ	Taketoya.....	Nagasaki ...	Arr. Dec. 12	GENESSE*	Manchester...	Philadelphia.	Pd. Kinsale
BULYSES	Bizerta	Colombo	Pd. Perim				Dec. 17
			Dec. 8	GEORGIAN PRINCE	Spezia	—	L. Gibraltar
BURGERMEISTER	New York ...	Stockholm ...	Pd. Dunnet Hd.				Dec. 11
PETERSEN			Dec. 22	GOLDMOUTH Δ	Balek Pappan	Gibraltar ...	L. Colombo
BUYO MARU	Singapore ...	Calcutta	L. Dec. 8				Dec. 10
C. A. CANFIELD* ...	Sabine	Tampico	L. Dec. 1	H. C. HENRY.....	Balek Pappan	—	Pd. Perim Dec. 14
CALCUTTA (Br. Bq.)..	San Francisco	Yokohama ..	L. Nov. 10	HAGEN	New York ...	Hamburg ...	L. Dec. 14
CAMILLO	Port Arthur.	Portsmouth	L. Norfolk, Va.,	HAINAUT (Barge) ...	—	—	T. between
			Dec. 8				Tampico and
CAPTAIN A.F. LUCAS	—	—	T. U. S. Pacific	HARPORT	San Francisco	Tocopilla ...	L. Nov. 26
CARDIUM Δ	Singapore ...	Gibraltar ...	Pd. Malta	HARRY	Baltimore ...	Tampa	Arr. Nov. 27
			Dec 14	LUCKENBACH			
CARPATHIAN □	Tyne	Port Arthur.	Pd. Prawle Pt.	HARRY	Galveston ...	Vera Cruz ...	Arr. Nov. 12
			Dec. 6	WADSWORTH*			
CAUCASIAN □	Galveston ...	Port Arthur,	Arr. Dec. 11	HELIOS	Sabine.....	Hamburg ...	Arr. Nov. 19. In
		Texas					port Dec. 16
CHARLES E.	Sabine.....	Tampico	L. Nov. 18	HERA	Kustendje ...	Brunshausen.	Pd. Gibraltar
HARWOOD							Dec. 16
CHARLOIS.	Sabine.....	Rotterdam ...	L. Norfolk, Va.,	HERBERT G. WYLIE	Galveston ...	Tampico	L. Dec 5
			Dec. 12	HERMIONE	Portland, Dor.	Port Arthur,	Pd. Lizard Dec. 14
CHATHAM.....	New Orleans	Tuxpan	Cl. Dec 8			Texas	
CHESTER	Antwerp &	Sabine.....	Pd. Diamond	HESPERUS	San Francisco	Pisagua	L. Dec. 11
	Norfolk, Va.		Shoal Light	HORLEY	New Orleans.	Tampico	L. Port Eads
			Dec 5				Dec. 6
CHEYENNE	Barrow	Novorossisk..	Pd. Dardanelles	HOTHAM NEWTON	Batoum	Dunkirk.....	Pd. Peniche
			Dec. 15				Dec 18
CHIRA (Tug)	Guayaquil ...	Talara	L. Nov. 18	HYRCANIA	Tyne	Port Arthur	Pd. Beachy Hd.
CIRCISSIAN	—	—	T. W.C. South				Dec. 3
PRINCE			America	ILLINOIS	Antwerp.....	Sabine.....	52 miles S. of
CITY OF EVERETT	Port Arthur,	New York ...	Arr. Nov. 21. In				Start Point Dec. 14
	Texas		port Nov. 26	IMPEROYAL	—	—	T. River
CLAM Δ	Kustendje ...	Amsterdam	Pd. Peniche				St. Lawrence
			Dec. 17	IMPOCO	Genoa	Kustendje ...	Pd. Dardanelles
CLEARFIELD	Galveston ...	Tuxpan	Cl. Dec. 9				Dec. 21
COMANCHEE	Philadelphia.	Birkenhead...	Cl. Dec. 11	IOANNIS COUTZIS...	—	—	On Govt. Service
CONCH Δ	Abadan	Suez	Pd. Perim Dec. 15	IROQUOIS (Towing	London	New York ...	80 miles S. of
CONRAD MOHR	Imminghain	New York ...	L. Dec. 1	Barge Navahoe)			Brow Hd. Dec. 15
CORDELIA	San Francisco	Taltal	L. Dec. 3	J. B. AUG. KESSLER	Rangoon.....	Port Said ...	L. Dec. 14
COWRIE Δ	Singapore ...	Seattle &	L. Karatza	J. OSWALD BOYD ...	Clyde &	Tampico	Pd. Eastham
		San Francisco	Nov. 27		Manchester		Nov. 21
CURRIER	Matanzas ...	Boston.....	951 miles S. of	JULES HENRY	Rotterdam ...	Ymuiden ...	Arr. Nov. 22. In
			Nantucket	(Fr. Bq.)			port Dec. 16
			Light Dec. 7	JUNO	Palembang ...	Miri.	L. Nov. 16
CYMBELINE	New York ...	Rouen	L. Dec. 7	KANAKUK	Kurrachee ...	Bombay	Arr. ab't Dec. 12
CZAR NICOLAI II...	Hamburg ...	Batoum	Pd. Dardanelles	KASBEK.....	Antwerp.....	Philadelphia.	Pd. Lizard Dec 6
			Dec. 15	KIOWA	Baton Rouge	Rotterdam ...	Cl. Norfolk, Va.,
DAGHESTAN	Messina	Batoum.....	Pd. Dardanelles				Dec. 8
			Dec. 14	KIO MARU	Valparaiso ..	—	Arr. Honolulu
DANUBIAN □	Port Arthur..	London	L. Newport				Dec. 16
			News Dec 6	KOMETA	Trieste	Constanti-	Pd. Dardanelles
DAYLIGHT (Br. Bq.)	Hioigo	Hong Kong..	Arr. Oct. 20 for			nople	Dec. 16
			New York	KREMLIN	Kustendje ...	Venice	Pd. Dardanelles
DELAWARE*	Novorossisk ..	—	90 miles S. of				Dec. 15
			Lizard	KURA	New York ...	Antwerp ...	L. Dec. 5
DERBENT	Manchester ..	Batoum	Pd. Constanti-	LA CAMPINE	Antwerp.....	New York ...	Arr. Dec. 10
			nople Dec 18	LA FLANDRE	Antwerp.....	New York ...	Pd. Scilly Dec. 10

Vessel.	From.	For.	Latest Date and Position.	Vessel.	From.	For.	Latest Date and Position.
LA HESBAYE	Antwerp.....	New York ...	Pd. Lizard Dec. 15	ROUMANIAN □	Manchester...	Kustendje ...	L. Eastham Dec. 16
LACKAWANNA* ...	New York ...	Manchester...	Arr. Dec. 19	ROUMANIAN	Selzaete	Jacksonville.	Pd. Dover Dec. 1
LE COQ □	Rouen	Tyne	Arr. Nov. 26. In port Dec. 16	PRINCE	New York ...	—	L. Dec. 7
LOKI	Philadelphia.	Hamburg ...	Pd. Dover Dec. 19	RUSSIAN PRINCE ...	Singapore ...	Tarakan	L. Dec. 3
LUCELLUM	Portland, Dor.	Bussorah ..	Arr. Dec. 14	SALAHADJI △	Yokohama ...	San Francisco	Arr. Dec. 16
LUCERNA	Cardiff	Kustendje ...	Arr. Dec. 15	SAMOSET	—	—	T. Mexican Coast
LUCIGEN	Portsmouth..	Port Arthur (Tex.)	Off the Wight Dec. 16	SAN ANTONIO.....	—	—	T. Mexican Coast
LUCILINE □	Rouen	Kustendje ...	Pd. Constanti- nople Dec. 17	SAN BERNARDO ...	—	—	T. Mexican Coast
LUMEN	Tyne	Philadelphia.	Arr. New York Dec. 10	SAN CRISTOBAL	Puerto Mexico	London	80 miles E. of Land's End Dec. 20
LUTETIAN □	Rouen.....	New York ...	P. Lizard Dec. 7	SAN EDUARDO	Batoum	Kustendje ...	L. Dec. 15
LUX □	Bordeaux ...	Tyne	Arr. Nov. 25. In port Dec. 16	SAN FRATERNO.....	London	New York ...	Pd. Dover Dec. 19
LUZ BLANCA	San Francisco	Payta	L. Dec. 1	SAN GREGORIO	Rotterdam ...	New York ...	200 miles W. of Brow Hd. Dec. 17
MAKKAVEI	Batoum	Horli	L. Nov. 17	SAN JOAQUIN.....	Sunderland..	Tyne	Arr. Dec. 20
MANNHEIM	Philadelphia.	Rotterdam...	Arr. Dec. 16	SAN RICARDO	Batoum & Con- stantinople	Borneo	Pd. Perim Dec. 7
MARGARETHA	Cette	Philadelphia.	Pd. Gibraltar Dec. 8	SAN SILVESTRE.....	Avonmouth..	New York ...	Pd. Brow Hd. Dec. 19
MASCONOMO	Karatsu	San Francisco	Arr. Dec. 13	SAN TIRSO	Batoum	Tuxpan	Pd. Gibraltar Dec. 18
MASSASOIT	Kuchinotzu ..	Calcutta	Arr. Nov. 20	SAN URBANO	Tyne	Puerto Mexico	Pd. Sand Key Dec. 9
METEOR.....	Batoum	Vladivostock.	Arr. Dec. 3	SAN VALERIO	Thames Haven	—	56 miles S.E. of Land's End Dec. 17
MEXICAN PRINCE.	Singapore ...	Shanghai ...	L. Dec. 13	SANTA MARIA	Hilo	San Francisco	At Hilo Dec. 3
MIJDRECHT	Braila	Hamburg ...	L. Malta Dec. 10	SANTA RITA	San Francisco	Vancouver...	L. Dec. 4
MINA BREA.....	Callao	Talara & San Francisco	L. Nov. 25	SATANTA	Calcutta	Singapore ...	Arr. Dec. 11
MIRA	New York ...	Italy	Pd. Gibraltar Dec. 15	SAXOLEINE	Tyne	New York ...	Pd. Dunnet Hd. Dec. 11
MITRA	Port Arthur..	Messina	L. Newport News Dec. 10	SEQUOYA	Amoy	San Francisco	Arr. ab't Dec. 20
MOHAWK*	Campana ...	Tampico	L. Monte Video Nov. 16	SERVIAN □	Port Arthur..	Belfast	L. Dec. 14
MOHICAN	Copenhagen	New York ...	Arr. Nov. 25. In port Nov. 29	SHABONEE	New York ...	—	Pd. Perim Dec. 13
MUREX △	Singapore ...	Palembang...	Arr. Dec. 13	SIOUX.....	Sabine & New Orleans.	Buenos Aires	L. Port Eads Nov. 17
NARRAGANSETT ...	Liverpool ..	New York ...	Arr. Dec. 21	SILVIA	Port Arthur..	Portsmouth..	L. Norfolk, Va., Dec. 12
NATICA	Rotterdam ...	Malta	Pd. Pantelleria Dec. 14	SIRIUS (Ger.)	Copenhagen.	Hamburg ...	Arr. Dec. 2. In port Dec. 16
NELSON	New Orleans	Puerto Padre	L. Port Eads Dec. 4	SOCONY	Port Arthur..	New York ...	L. Nov. 21
NEW YORK*	Rotterdam ...	New York ...	Arr. Dec. 21	SOYO MARU.....	Thames Haven	Persian Gulf.	Arr. Port Said Dec. 19
NIAGARA	San Francisco	Chinkiang ...	L. Nov. 19	SPLENDOR	New York ...	Algiers	L. Dec. 2
NORMAN BRIDGE...	Philadelphia.	Tampico	Cl. Dec. 11	STAG	Liverpool & Milford	Antilla	Pd. St. Anne's Hd. Dec. 7
OBERON.....	Victoria, B.C.	Port San Luis	L. Nov. 30	STANDARD	London	Kustendje ...	L. Algiers Dec. 17
OCEAN	New York ...	Amsterdam .	P. Beachy Head Dec. 16	STROMBUS △	London	Port Arthur..	Arr. Dec. 19
OILFIELD	Savona	Philadelphia.	Arr. Dec. 16	SULTAN VAN	Suez	Bombay	Pd. Aden Dec. 15
OKLAHOMA	Port Arthur..	New York ...	L. Nov. 30	LANGKAT △	Macoris	Liverpool ...	L. Nov. 22
ORIFLAMME □	New York & La Pallice	Pt. de Bouc ..	Arr. Dec. 13	SUNLIGHT (Br. Bq.)	Philadelphia.	Copenhagen .	L. Dec. 17
OSAGE	Rotterdam ...	New York ...	Pd. Scilly Dec. 2 and in wireless com. Dec. 3	SURAM	Philadelphia	Sunderland...	Arr. Dec. 17
OTTAWA*	Maryport & Liverpool	New Orleans.	L. St. Michaels Dec. 2	SUWANEE*	Philadelphia & Hull	Rouen... ..	Arr. Plymouth Dec. 18
OURAL	Kustendje ...	Trieste	Pd. Dardanelles Dec. 16	SVIET	Batoum	Tees...	Arr. Dec. 2. In port Dec. 3
PALEMBANG	Balek Pappan	Saigon	L. Dec. 11	TASCALUSAH	Tyne	New Orleans.	Arr. Dec. 8
PATELLA △	Thames Haven & Bizerta	Aroe Bay ...	L. Colombo Dec. 11	TECUMSOH	Tampico	Gibraltar ...	L. Malta Dec. 16
PAUL PAIX.....	Hull	New York ...	Pd. Scilly Dec. 14	TELENE △	Singapore ...	New Orleans	L. Dec. 10
PAULA	Swinemunde.	Hamburg ...	Arr. Nov. 24. In port Dec. 16	TEREK	Foynes	New York ...	Pd. Sand Key Nov. 29
PAWNEE	Baton Rouge	Hamburg ...	Arr. Dec. 11. In port Dec. 16	TEXAS	Port Arthur..	Tyne	Arr. Nov. 30. In port Dec. 16
PECTAN	Taltal	San Francisco	Arr. Dec. 8	TIFLIS	London	New York ...	Arr. Dec. 12
PENNOIL	Tyne	Port Arthur.	Pd. Dunnet Hd. Nov. 27	TONAWANDA*.. ..	Tees & Sunderland	Vancouver...	Arr. Dec. 11
PETROLEINE	New York ...	Bordeaux ...	L. Dec. 18	TRINCULO.....	Tocapilla ...	New York ...	Arr. Dec. 9
PETROLEUM	—	—	800 miles S.W. Land's End Dec. 10	TRINIDADIAN.....	Tampa	Hamburg ...	L. Norfolk Va., Dec. 10
PHOEBUS	Caleta Buena	Callao	Arr. ab't Dec. 3	TRITON	Baton Rouge	Tarakan	L. Dec. 14
PINNA □	Manchester	New Orleans	Arr. Dec. 17	TROCAS △	Hong Kong..	Rangoon	L. Dec. 17
PONUS	Shanghai & Mi-ike	San Francisco	Arr. Dec. 8	TURBO	Calcutta	San Francisco	Arr. Dec. 16
POTOMAC*	Middlesbro'..	Philadelphia.	Arr. Dec. 17	UNCAS	Mi-ike.....	Philadelphia.	L. Dec. 6.
POWHATAN	Moji	San Francisco	L. Dec. 1	VEDRA	Tyne	Philadelphia.	L. Nov. 30
PROMETHEUS.....	Antofagasta..	Callao	L. Talara Bay Dec. 8	VILLE DE DIEPPE (Norwegian Barque)	La Pallice ...	Natal	L. Dec. 10
PRUDENTIA.....	Tampico	New York ...	Arr. Nov. 23. In port Nov. 29	VITRUVIA.....	Philadelphia.	Palembang...	L. Dec. 17
PURELIGHT	Hamburg & Tyne	Philadelphia.	Arr. Dec. 19	VOLCANUS	Tjilatjap ..	Hong Kong..	L. Dec. 10
QUEVILLY (Fr. Bq.)	New York ...	Rouen.....	L. Dec. 13	VOLUTE △	Balek Pappan	San Francisco	Arr. Dec. 9
RADIOLEINE II. ...	Kustendje ...	—	Pd. Dardanelles Dec. 13	WABASHA.....	Tientsin	Tampico	Off Tampa Bar Dec. 3
RANELLA	Tientsin	Balek Pappan	Arr. Dec. 14	WANETA	Tampa	Liverpool ...	Arr. Dec. 19
RENDOVA (Br. Bq.)	New York ...	Alicante & Seville	L. Dec. 1	WAPELLO	New York ...	Kustendje ...	Arr. Dec. 15
RICHMOND	New Orleans	San Francisco	Arr. Dec. 19	WASHINGTON	Hamburg ...	London.....	L. Dec. 2
RIOA	Liverpool ...	New York ...	Arr. Dec. 11	WEEHAWKEN	Cienfuegos...	Rotterdam ...	L. Dec. 18
ROCK LIGHT □	Grangemouth	Tees...	Arr. Dec. 19	WIELDRECHT.....	Kustendje ...	—	Pd. Tatgosh Nov. 28 b'nd out
ROMANY △	Rotterdam ...	Batoum	Arr. Dec. 16	WILLIAM F. HERRIN	—	Christiania & Hamburg	L. Dec. 10
ROSALIND.....	London	Port Arthur..	Pd. Lizard Nov. 30	WILLKOMMEN	Philadelphia.	Port Said ...	Arr. Dec. 19
ROTTERDAM	Philadelphia.	Amsterdam...	L. Dec. 14	WINAMAC.....	New York ...	New York ...	Arr. Dec. 12
				WOTAN	Hamburg ...		

THE
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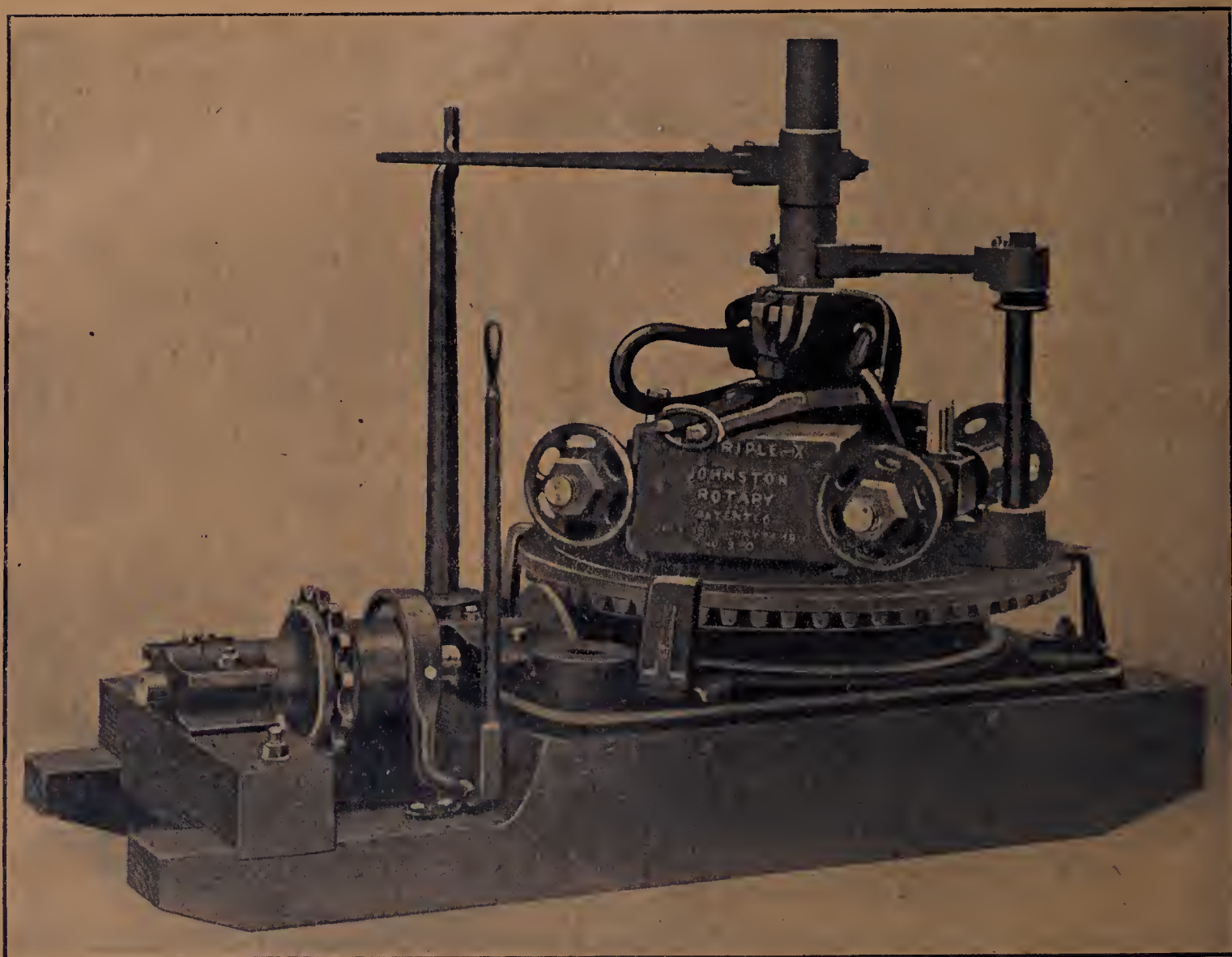
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